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As a preliminary step in establishing bases for food service training programs, data were collected from a sample of institutions including 4,496 restaurants, 158 hospitals, 436 nursing homes, and 343 custodial homes. A second phase involved developing inventories of attitudes toward food service employment and administering them to high school juniors and seniors, food service program enrollees, and 300 adults in middle and low socioeconomic segments. In the third phase, short courses were given to two experimental groups of 78 school lunch employees. In the fourth phase, instruments were developed to evaluate training through assessing the quality of service and food. Some findings were: (1) About 5 percent of restaurant and custodial home food service managers and 15 percent of nursing home food service managers had formal training, while 69 percent of hospital food service managers had training and 25 percent were qualified dieticians, (2) Among a sample of food service program enrollees, statements concerning relations with people obtained frequent favorable responses, and (3) Adults with some food service experience had significantly higher scores on all attitude inventories than those without experience. [Not available in hard copy due to marginal legibility of original document.] (JK)

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FINAL REPORT

Bureau of Research No. 5-0129
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BASES FOR VOCATIONAL EDUCATION FOR FOOD SERVICE INDUSTRY EMPLOYEES

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July 1969

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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OFFICE OF EDUCATION

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Final Report

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The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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SUMMARY OF RESEARCH PROJECT: BASES FOR VOCATIONAL EDUCATION FOR FOOD SERVICE INDUSTRY EMPLOYEES

National concern about an increasing need for better trained food service personnel has stimulated interest in vocational and technical food service education. This concern is shared by vocational educators and supervisors of personnel in the food service industry in relation to all aspects of training personnel before and during employment. The need for training of food service personnel has been evidenced by the scarcity of labor, low productivity of labor, high labor turnover, and often unsatisfactory quality of food products and service. It is believed that with effective training some progress can be made toward meeting these problems, and individuals can advance in the industry to provide themselves with an adequate livelihood and a satisfying career. If sound programs of vocational education for food service industry employees are to be established, new insights are needed as bases for establishing objectives, content, learning experiences, and evaluation.

Some of the objectives of this research were to: (a) determine, in selected types of institution food service, characteristics of the institutions, food service operations, food service managers, and employees; conditions of employment, including hours, wages, fringe benefits, labor turnover, and employee training; desired characteristics and skills for employees in specific positions; and perceived training needs; (b) ascertain the attitudes of individuals toward employment in the food service industry; (c) study the effectiveness of training procedures and factors associated with the effectiveness of training; and (d) develop means for ascertaining the need for training and measuring the effect of training in terms of the success of the food service establishment in which the personnel are employed.

Studies included as parts of this research project are reported in four sections according to the objectives given above. The period of research extended from September 1, 1965, through May 31, 1969. The research represented the cooperative efforts of the Institution Management and Home Economics Education Departments, Iowa State University of Science and Technology. The Institution Management Department had responsibility for the research reported in Sections I, III, and IV; the Home Economics Education Department was responsible for the research reported in Section II.

Survey of Food Service Establishments

A survey was made in 1966 of restaurants and food service departments in hospitals, nursing homes, and custodial homes in Iowa to identify characteristics of the industry in which persons enrolled in vocational food service education programs would be employed. Data were collected by personal interviews. A description of the sampling procedure, interview schedules, and manuals for instructing the interviewers in the use of the interview schedule are included in an appendix of the report. Data for each type of establishment included the following: volume of operation (reported as gross income or as number of beds and number of meals); characteristics of the food service manager; responsibilities of the food service manager; number of full-time and part-time personnel; number of male and female personnel; types of jobs held by employees; for hospitals, nursing homes, and custodial homes, the number of licensed beds and noon meals served per employee and full-time employee equivalent; the average number of hours and days that personnel worked per week; wages paid; fringe benefits provided; labor turnover; and employee training practices. Data were analyzed in relation to selected factors. As a follow-up of the survey of restaurants, a study was made of the perceived training needs for restaurant managers and supervisors, cooks, and waitresses, by means of a questionnaire, a copy of which is in an appendix of the report.

Attitudes Toward Employment in Three Food Service Jobs: Waiter, Waitress, and Commercial Cook

The first of two major purposes of this study was to develop attitude inventories that could be used in the guidance of pupils considering wage-earning training and/or employment in food service jobs and establish norms to facilitate the interpretation of the scores. The three inventories are Attitude Toward Being a Waiter, Attitude Toward Being a Waitress, and Attitude Toward Commercial Cooking. The second major purpose was to determine whether certain factors were related to the attitudes of high school juniors and seniors, and adults.

The development of the three inventories involved the collection of pools of attitudinal statements and selection of those that were valid and that discriminated well between high and low scorers. The inventories were then administered to a stratified sample of 775 juniors and seniors in 19 Iowa high schools, and data concerning seven factors were collected simultaneously. Scores used to establish norms were obtained from the responses of 189 girls and 198 boys enrolled in food service courses in four Iowa high schools. A sample of adults of two income strata, middle and low, was taken by sampling census tracts classified by three criteria: median family income, median years of education of persons at least 25 years old, and cumulative estimates of housing conditions. The inventories and a data sheet were administered by an interviewer to 200 women and 100 men. The attitude inventories and other forms are included in an appendix of the report.

Experiment in Training Food Service Personnel

An experiment was conducted to determine the effects of a training program on food service employees and the relationship of certain factors to the effects of training. Three short courses were the basis of the training experiment; each course was of five days duration. Three groups of school lunch employees were selected for the study: a one-year experimental group, a three-year experimental group, and a control group. Three criteria were established for selection of the participants: length of experience in food service, level of education, and job responsibility. The effectiveness of the training program was evaluated at three levels: by pre-test and post-test measurements, by objective measurements of performance on the job, and by subjective measurements.

The pre-test and post-test measurements were used to: (a) determine the relationship between job knowledge prior to training and criteria used in selection of trainees; (b) determine the effects of training for food service workers; (c) determine the relationship between the effects of training and criteria used in selection of trainees; (d) compare achievement for employees who received concentrated training and those who received spaced training; (e) compare the relationship between aptitudes and job knowledge before and after training; (f) determine the relationship between the numerical and intelligence aptitudes and ability to respond to mathematical and nonmathematical questions; (g) compare the relationship between aptitude norms and job knowledge before and after training; and (h) determine the effect of training on attitudes.

The objective measurements of performance on the job were used to: (a) compare on-the-job performance of the trained and control group; (b) relate on-the-job performance to post-test scores; (c) determine the extent to which the trained group translated job knowledge into action, as reflected by specific test items; (d) relate on-the-job performance to aptitudes; and (e) compare retention of learning of trained and control groups in the subject-matter area of nutrition.

The subjective measurements were used to: (a) compare the administrators' performance ratings of supervisory and nonsupervisory personnel before training and eight months after training; (b) obtain evidence of change in the performance of school lunch supervisory and nonsupervisory employees that their administrators attributed to participation in the training program; (c) obtain evidence of change in the performance of the school lunch managers that their subordinates attributed to participation in the training program; (d) determine the relationship of the administrators' and the subordinates' ratings of change in the performance of the trainees; (e) determine trainees' perceptions of change in the performance of their jobs; (f) compare trainees' perceptions of training needs before, immediately after, and eight months after training; (g) compare trainees' perceptions of learning immediately after and eight months after training; and (h) determine the relationship of self-reported gain and measured gain in job knowledge resulting from training.

Developments to Assess Quality of Service and Quality of Food

An instrument was designed to assess quality of service in table service restaurants. A total of 135 items concerned with specific service situations and conditions were incorporated into an original item pool. Thirty-one judges rated the items on a seven point scale. Based upon these responses, a scale value and a Q value were derived for each item. Subscales for customer enjoyment, sanitation, and speed of service were categorized. In developing the final evaluation instrument, a procedure was formulated using the technique of equal-appearing intervals. Forty-five items were selected from three subscales. The instrument was pre-tested to determine inter-rater reliability and retest reliability by a four-member evaluation team. The responses of the raters were scored using a Likert technique. The mean inter-rater reliability and the retest reliability were determined. In addition to evaluating the service based on the 45 items, the raters were asked to give an overall rating. Recommendations were made for improving the evaluation instrument by further investigation.

An instrument was developed to assess quality of food in food service establishments. Types and subtypes of foods and quality characteristics to be evaluated were outlined. Individual scales for evaluating the quality characteristics of each food subtype were designed. A panel of raters was selected on the basis of responses to a food preference scale. The food quality evaluation instrument was tested to determine inter-rater reliability and retest reliability by a group of four raters. In addition to evaluating the food service establishments on the basis of quality of selected food items, the raters were asked to indicate on a scale the general acceptability of the entire meal in each establishment. Further testing of the instrument was recommended.

SECTION I

SURVEY OF FOOD SERVICE ESTABLISHMENTS

SUMMARY

As a preliminary step in studying bases for vocational food service education, a survey was made in 1966 of restaurants and food service departments in hospitals, nursing homes, and custodial homes in Iowa. The purpose of the survey was to identify characteristics of the industry in which persons enrolled in vocational food service education programs would be employed. It is believed that the conditions of employment in Iowa may be similar to those in other states that have somewhat comparable industry and concentration of population. The survey was made by the Institution Management Department of Iowa State University in cooperation with the Statistical Laboratory and Department of Statistics at the University.

Data were collected from a sample of the population of restaurants, hospitals, nursing homes, and custodial homes throughout Iowa. The population of restaurants sampled consisted of those having 50 percent or more of their gross income from the sale of food. The population of hospitals sampled included all hospitals in Iowa except those directed by the Iowa Board of Control of State Institutions and one Veterans Administration psychiatric hospital. Only one rehabilitation center was included, but six hospitals in the population had rehabilitation beds. Hospitals were classified as hospitals even though they had nursing home beds. The population of nursing homes and custodial homes sampled included all licensed nursing homes and custodial homes in Iowa. If an institution had both nursing and custodial home beds, the institution was classified according to the type of bed in greatest number. Data were collected by means of personal interviews in the individual establishments.

As a follow-up of the survey of restaurants, a subsequent study was made of the perceived training needs for restaurant managers and supervisors, cooks, and waitresses. A questionnaire was sent to restaurant managers and restaurant management educators.

There was a large proportion of relatively small food service operations in all four types of establishments. Slightly over half of the restaurants which reported annual sales had a gross income of less than $25,000. Only 5 percent of the restaurants had a gross income of $200,000 or more. The volume of food service is related to the number of beds in health care facilities. The proportion of establishments having less than 70 beds was as follows: hospitals, 56 percent; nursing homes, 87 percent; and custodial homes, 86 percent.

In each establishment one individual, having overall responsibility for the food service, was designated as the food service manager. Approximately 75 percent of the restaurants had no paid management or supervisory personnel; that is, the owner was the only management person. In 62 percent of the nursing homes and 64 percent of the custodial homes, the manager of the food service was also the owner of the institution.

The extent of formal food service training which managers had had varied considerably among the various types of establishments. Less than 5 percent of the managers in restaurants had participated in any formal food service training program. In hospitals 69 percent had participated: 33 percent had a baccalaureate degree; 33 percent non-academic short-term training; and 3 percent special diet training. In nursing homes, only 15 percent had participated in a formal food service training program: 14 percent had non-academic short-term training, and 1 percent had technical food service training. In custodial homes, only 5 percent of the food service managers reported participation in a food service training program: 2 percent in a baccalaureate degree program, and 3 percent in a non-academic short-term training program.

The responsibilities of the food service managers in the various types of establishments were studied as were their perceived managerial problems. Of the total number of managerial problems reported by restaurant managers, over half were related to labor. The managerial problems mentioned most frequently by food service managers of hospitals, nursing homes, and custodial homes were also related to labor.

Based on the samples studied, the estimated number of establishments, the number of personnel, and the percent of full-time and part-time personnel are shown in Table 1. Eighty-three percent of the food service units covered by this survey were restaurants. Hospitals, nursing homes, and custodial homes represented 3, 8, and 6 percent of the establishments. A total of 46,219 persons were employed. Of these, 39 percent were part-time employees. Nursing homes and custodial homes used a larger proportion of part-time personnel than restaurants or hospitals.

Table 1. Estimated number of establishments, number of food service personnel employed, and percent of full-time and part-time personnel (Iowa, 1966)

Establishment	Number of establishments	Food service personnel		
		Number	Percent full-time	Percent part-time
Restaurants	4,496	37,934	62	38
Hospitals	158	4,183	62	38
Nursing homes	436	2,394	45	55
Custodial homes	343	1,708	43	57
Total	5,433	46,219	61	39

In restaurants the number of males and females employed in management and supervisory jobs was about equal, but in the other establishments more females than males were employed. In the food service departments of hospitals, nursing homes, and custodial homes the percent of females employed in management and supervisory positions was 89, 84, and 88 respectively.

Most of the nonsupervisory jobs were held by females. The percent of nonsupervisory female employees in restaurants, hospitals, nursing homes, and custodial homes was 72, 69, 97, and 83 respectively.

Many employees' work encompassed a combination of jobs, such as waitress, cashier, and kitchen helper or kitchen helper, dishwasher, and tray girl.

In Table 2 are shown comparisons among hospitals, nursing homes, and custodial homes with respect to the average ratios of number of licensed beds and noon meals served per employee and per full-time employee equivalent. Nursing homes had more licensed beds and served more noon meals per employee and per employee equivalent than either hospitals or custodial homes. With the exception of number of noon meals served per employee, hospitals had lower ratios than custodial homes; therefore, the labor cost may be expected to be higher in hospitals than in nursing homes or custodial homes. One possible explanation may lie in the fact that in both nursing and custodial homes, more part-time than full-time personnel were employed in food service departments; whereas this was not true in hospitals. Other contributing factors were also considered.

Table 2. The average ratio of number of licensed beds and noon meals served per food service employee and per full-time employee equivalent in the food service departments of hospitals, nursing homes, and custodial homes (Iowa, 1966)

	Ratio		
	Hospitals	Nursing homes	Custodial homes
Licensed beds per employee	4.5	6.7	6.6
Noon meals per employee	6.9	7.8	6.6
Licensed beds per full-time employee equivalent	5.6	10.3	9.8
Noon meals per full-time employee equivalent	8.6	11.9	9.8

The average number of hours and days that personnel worked per week is given in Table 3. The average hours worked per week by food service managers in hospitals, nursing homes, and custodial homes included the hours worked per week by managers who gave only part of their time to the job of managing the food service. For other management and supervisory personnel working full time, the average number of hours per week was greatest in restaurants. The average hours per week for nonsupervisory full-time personnel was similar for all four types of establishments.

Table 3. Average number of hours and days food service personnel worked per week (Iowa, 1966)

Personnel	Restaurants Hours	Restaurants Days	Hospitals Hours	Hospitals Days	Nursing homes Hours	Nursing homes Days	Custodial homes Hours	Custodial homes Days
Manager	64.0	6.3	37.8	5.2	32.0	6.2	33.0	6.7
Other management and supervisory								
Full-time	60.7	6.1	42.5	5.2	51.9	5.7	41.2	6.1
Part-time	20.7	5.4	12.6	2.2	10.8	3.4	28.0	6.9
Nonsupervisory								
Full-time	42.5	5.7	40.4	5.1	42.2	5.6	43.8	5.8
Part-time	17.6	3.9	18.8	4.2	17.5	3.9	20.0	4.3

Wages paid to personnel may be considered a factor affecting the labor turnover rate. In Table 4 are shown the average hourly beginning and high wages paid to full- and part-time nonsupervisory personnel in restaurants, hospitals, nursing homes, and custodial homes. Hospitals paid higher average beginning and high wages to both full- and part-time nonsupervisory personnel than did any of the other establishments. Custodial homes paid the lowest average high wages per hour to both full- and part-time personnel.

Table 4. Average beginning and high wages paid full- and part-time nonsupervisory food service personnel (Iowa, 1966)

Establishment	Average wage per hour: Beginning Full-time	Beginning Part-time	High Full-time	High Part-time
Restaurants	$ .99	$ .88	$1.23	$1.04
Hospitals	1.19	1.03	1.49	1.15
Nursing homes	.95	.90	1.15	1.07
Custodial homes	1.02	.91	1.11	1.03
Average based on total number of employees	$1.01	$ .90	$1.25	$1.05

The extent to which the establishments provided fringe benefits for food service personnel is shown in Table 5. For management and supervisory personnel a greater percent of hospitals provided holidays, vacation, and sick leave than the other establishments; whereas, a smaller proportion of hospitals provided meals. A greater percent of restaurants provided uniforms, although fewer restaurants provided laundry of uniforms than provided uniforms. For nonsupervisory personnel, there was, in general, a similar pattern among the establishments in regard to provision of fringe benefits as there was for management and supervisory personnel.

Table 5. Percent of establishments providing fringe benefits for food service personnel (Iowa, 1966)

Fringe benefit	Restaurants		Hospitals		Nursing homes		Custodial homes	
	Management and supervisory	Nonsupervisory	Management and supervisory	Nonsupervisory	Management and supervisory	Nonsupervisory	Management and supervisory	Nonsupervisory
Holidays	34	25	93	90	14	18	27	28
Vacation	58	36	97	96	79	65	82	62
Sick leave	43	19	87	86	34	28	59	45
Meals	71	82	54	59	76	84	82	90
Uniforms	23	20	9	9	0	0	0	3
Laundry of uniforms	15	12	26	20	0	6	36	26

Labor turnover ratios for the three-month period preceding the interviews are shown below for full- and part-time nonsupervisory food service personnel:

Establishment	Average percent of turnover for nonsupervisory personnel	
	Full-time	Part-time
Restaurants	22.4	13.7
Hospitals	8.0	8.3
Nursing homes	6.4	6.4
Custodial homes	5.3	6.5
Average based on total number of employees	19.9	12.4

If the number of terminations were the same for the other three quarters of the year, and the average number of employees remained constant, the annual turnover rates would be four times as great. Restaurants experienced greater turnover of both full- and part-time nonsupervisory personnel than did the other institutions. Nursing and custodial homes, on the average, had the lowest labor turnover rates for all nonsupervisory personnel. Because 83 percent of all full-time and 80 percent of all part-time nonsupervisory personnel in the food service institutions surveyed in Iowa were employed in restaurants, the average labor turnover rate for all the establishments surveyed was influenced by the high labor turnover rates in restaurants. It is of interest to note that the labor turnover rate for food service employees in hospitals was higher than that of nursing and custodial homes which consistently paid lower wages.

Employee training practices for food service personnel were studied. Although many of the establishments indicated that they provided training, the training was often of short duration, and a study of the training for three specific jobs revealed that:

1. There was usually no off-the-premise training provided. An exception to this was for the position of head cook in hospitals and nursing homes; 8 and 9 percent respectively of the head cooks had had some off-the-premise training.

2. Of on-the-premise training provided, for the three jobs studied, most of the training was of the informal type designated as tag or hit-and-miss. There was very little evidence of planned training experiences.

The need for training of food service managers is supported by the findings of this survey. The need for managers to increase the productivity of personnel so that wages and job satisfaction may be increased and labor turnover reduced was evident. Educational programs are needed to help food service managers understand various aspects of management, develop optimum work methods in food production and service, and learn effective methods of on-the-job training.

In addition, supplemental training programs for nonsupervisory food service personnel could assist food service managers in providing adequate training experiences for their personnel.

When planning educational programs for all food service personnel, the information secured in this survey about restaurants and the food service departments in hospitals, nursing homes, and custodial homes; the personnel employed; and conditions of employment will be of assistance in planning such programs.

INTRODUCTION

A necessary preliminary step in the planning of vocational education programs is identification of the characteristics of the industry in which the persons to be trained will work. For this reason, as part of the research project to determine bases for vocational education for food service employees, a survey was conducted of restaurants and food service departments in hospitals, nursing homes, and custodial homes in Iowa. The survey was made by the Institution Management Department of Iowa State University in cooperation with the Statistical Laboratory and Department of Statistics at the University. It is believed the conditions of employment in Iowa may be similar to those in other states that have somewhat comparable industry and concentration of population. The two largest cities in Iowa have populations of 216,000 and 103,545 according to an estimate for 1965 (7).

Information derived from the survey included characteristics of the institutions, food service operations, food service managers, and employees; and conditions of employment, including hours, wages, fringe benefits, labor turnover, and employee training. Desired characteristics and skills for employees in three positions were also determined. Data were collected by personal interviews in 1966.

A subsequent study was made, by means of mailed questionnaire, of the perceived training needs of restaurant managers and supervisors, cooks, and waitresses.

METHODS

The Statistical Laboratory at the University assisted with the design of the sampling procedure for the survey. A description of the sampling procedure is included in Appendix A.

Interview schedules and manuals for instructing the interviewers in the use of the interview schedule were developed. One schedule was prepared for use in restaurants and another for use in hospitals, nursing homes, and custodial homes. Copies of the schedules and the manuals are shown in Appendix A. Prior to the interviewing, a two-day training school was conducted on the Iowa State University campus to train the interviewers, all of whom had previous experience in interviewing.

The interviewers were supervised during the interviewing period by two staff members of the Statistical Laboratory. Interviews in five of the large restaurants and five of the hospitals were conducted by two of the researchers. The interviewing was done during the period of April 6 - May 28, 1966 except for one interview in a hospital which was done several months later. As the interviews were completed the schedules were mailed to the University where they were checked carefully for incomplete information or misinterpretations; necessary editing was done. Codes were developed for all information given in the schedules, and the information was then transferred to punch cards for analysis.

As a follow-up of the survey of restaurants, a subsequent study was made of the perceived training needs for restaurant managers and supervisors, cooks, and waitresses by means of a questionnaire sent to restaurant managers and restaurant management educators. A copy of the questionnaire is included in Appendix A.

FINDINGS AND ANALYSIS

The findings of the survey of food service establishments in Iowa will be presented in four parts: for restaurants and for the food service departments in hospitals, nursing homes, and custodial homes. Findings of the study of training needs of restaurant personnel in Iowa will be presented along with the other data related to restaurants.

Restaurants (3,6)

The 392 restaurants in which interviews were conducted in 1966 were located in 25 of the 99 counties in Iowa. Information was secured about characteristics of the restaurants and restaurant managers, present employment in restaurants, labor turnover, and employee training. Based on the sample of 392 restaurants, data are presented for the estimated 4,496 restaurants in Iowa at the time of the survey that derived 50 percent or more of their gross income from the sale of food. These restaurants constituted 58 percent of the establishments with a restaurant license.

Most of the estimated 4,496 Iowa restaurants were small businesses. The proportion of restaurants having a gross income within specified sales volume ranges is shown below:

Annual sales volume	Percent of restaurants
Less than $5,000	16
$5,000 to $24,999	36
$25,000 to $49,999	21
$50,000 to $99,999	15
$100,000 to $199,999	7
$200,000 or more	5

Of those restaurants for which annual sales were reported, slightly over half had a gross income of less than $25,000. Only 5 percent of the restaurants had a gross income of $200,000 or more.

About two-thirds of the restaurants were not part of another business; that is, food service was their primary source of business. The remainder were located in such businesses as bowling alleys, drug stores, filling stations, grocery stores, hotels, and motels.

Managers

Almost half the managers[1] had been managing the restaurant less than five years. About three-quarters of the restaurants were managed by the owner.

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[1] In each restaurant one individual, having overall responsibility for the food service, was designated as the food service manager.

Less than 5 percent of the managers had participated in any formal food service training program. Many of the managers, however, reported having had previous food service experience. Almost half had previous experience at the nonsupervisory level, but less than one-fourth at the management and supervisory level.

Managerial responsibilities and problems

The responsibilities most frequently reported by managers are shown below:

Responsibility	Percent of managers
Purchasing	98
Supervising employees	97
Hiring employees	95
Discharging employees	94
Training employees	90
Keeping records	85
Working at counter	85
Planning menus	84
Cashiering	83
Cooking	83
Waiting tables	75

Only 19 percent of the managers reported management as a responsibility; however, 26 percent may have implied this when they reported responsibility for "everything."

Specific responsibilities which the managers frequently ranked as most time-consuming are shown below:

Responsibility	Percent of managers
Cooking	41
Waiting tables	11
Working at counter	11
Supervising employees	9
Purchasing	6
Managing	5

Eighty-three percent of the managers reported cooking as a specific responsibility; over 40 percent considered cooking to be their most time-consuming responsibility. This finding is related to the large proportion of very small restaurants. Training was recognized as a responsibility of 90 percent, but only 1 percent said it was their most time-consuming responsibility.

Managers were asked whether they had any managerial problems. The percent of managers reporting specific problems is shown below:

Managerial problems	Percent of managers
Bookkeeping	7
Competition	2
Food cost	8
Labor	
General	24
Cost	2
Procuring	38
Productivity	3
Training	5
Turnover	19
Pleasing the public	2
Production-related problems	8
Profit-making	8
Providing good service	2
Purchasing	12
Serving good food	1
Other	27

Of the total number of problems reported, over half were related to labor. About one-fifth of the managers stated that they had no managerial problems.

Present and anticipated employment

Many employees' work encompassed a combination of jobs, such as waitress, cashier, and kitchen helper. To determine the number of persons in each job category, each employee was classified by the job occupying most of his or her time.

During the spring of 1966, the estimated number of employees in the 4,496 restaurants in Iowa was 37,934; 18 percent were management and supervisory personnel and 82 percent were nonsupervisory personnel. Over three-quarters of the management and supervisory personnel were food service managers (the designation given the person having overall responsibility for the food service). Waitresses represented over 40 percent of the nonsupervisory personnel. Forty-two percent of the nonsupervisory personnel were employed on a part-time basis.

The average number of full-time management and supervisory employee equivalents per restaurant was 1.3; the average number of full-time nonsupervisory employee equivalents was 5.4. (The proportion of part-time to full-time hours was used in converting part-time employees to full-time employee equivalents.)

Approximately 75 percent of the restaurants had no paid management and supervisory personnel; that is, the owner was the only management and supervisory personnel. In approximately 10 percent of the restaurants, there were no paid nonsupervisory personnel; in these instances the owner or family members were the only employees. In some instances there was no other employee than the food service manager.

More female than male personnel were employed. At the management and supervisory level, the percent of male and female personnel was approximately equal. There were more female than male personnel at the nonsupervisory level; 72 percent versus 17 percent. For many jobs either males or females were employed.

For each job the number of unfilled positions was determined. An estimated 30 management and supervisory positions were unfilled. At the nonsupervisory level, there were 1,687 unfilled positions; about two-thirds of these were waitresses.

The number of full and part-time personnel each manager expected to employ in one year in the future was compared to the usual number of full and part-time personnel in each restaurant. Although there were increases indicated, on the average, the number of full-time employees was expected to remain constant. A net increase of 349 part-time employees was expected.

Hours, wages, and fringe benefits

The average number of hours and days that personnel worked per week is given below:

Personnel	Hours	Days
Manager	64.0	6.3
Other management and supervisory		
Full-time	60.7	6.1
Part-time	20.7	5.4
Nonsupervisory		
Full-time	42.5	5.7
Part-time	17.6	3.9

Management and supervisory personnel worked more hours and more days per week than nonsupervisory personnel; this was true for both full and part-time personnel. Although all full-time personnel worked more than a 40-hour, 5-day week, the manager and other management and supervisory personnel, on the average, worked more than 60 hours and 6 days per week.

The beginning wage for an inexperienced person and the highest wage were asked for each job. Average wages for several full-time nonsupervisory jobs were as follows:

Job title	Wages per hour Beginning	 High
Busboy	$1.00	$1.14
Cook, assistant	1.15	1.38
Cook, head	1.24	1.52
Cook, short order	1.13	1.38
Counter attendant	.96	1.20
Dishwasher	.86	.99
Waitress	.79	1.03

The average beginning wage for all nonsupervisory jobs was 99 cents per hour for full-time versus 88 cents for part-time. The average high wage was $1.23 per hour for full-time and $1.04 for part-time nonsupervisory personnel. When comparing wages by the sales volume of the restaurant, only restaurants with an annual sales volume of $100,000 or more paid wages that were higher than the average.

Questions were asked regarding fringe benefits for paid personnel. Of the estimated 4,496 restaurants, only 25 percent had paid management and supervisory personnel, and 89 percent had paid nonsupervisory personnel. As shown below, with the exception of meals, a greater percentage of restaurants provided fringe benefits for management and supervisory than nonsupervisory personnel:

Fringe benefit	Percent of restaurants providing fringe benefit Management & supervisory	 Non-supervisory
Holidays	34	25
Vacation	58	36
Sick leave	43	19
Meals	71	82
Uniforms	23	20
Laundry of uniforms	15	12

In all, a relatively small proportion of restaurants provided fringe benefits for their paid personnel. For all personnel, the highest percentage of restaurants providing paid holidays and sick leave days had a sales volume of $100,000 to $200,000; the greatest percentage providing paid vacations, meals, and uniforms and laundry had a sales volume of $200,000 or more.

Labor turnover

The labor turnover rate was determined for each job based on the terminations during the three-month period prior to interviewing. The labor turnover formula used was:

$$\text{Labor turnover} = \frac{\text{Number of terminations X 100}}{\text{Number of employees}}$$

The rate for all full-time management and supervisory personnel was 1.8 percent; labor turnover did not exist for part-time management and supervisory personnel. The labor turnover rate for all full-time nonsupervisory personnel was 22.4 percent, and for part-time, 13.7 percent. Labor turnover rates for three months for several nonsupervisory jobs are shown below:

Job title	Average percent of turnover for three months	
	Full-time	Part-time
Busboy	24.4	18.8
Cook, assistant	11.3	8.5
Cook, head	17.3	43.5
Cook, short order	12.4	10.0
Counter attendant	20.2	11.3
Dishwasher	27.4	27.2
Waitress	31.6	14.0

The highest labor turnover for full-time nonsupervisory personnel was 31.6 percent for waitresses, and for part-time, 43.5 percent for head cooks. The highest labor turnover for nonsupervisory personnel was in restaurants with a sales volume of $100,000 to $200,000; in this sales volume range, the labor turnover rates were 31.3 percent for full-time and 26.6 percent for part-time nonsupervisory personnel.

If the number of terminations were at the same rate for the other nine months of the year as during the three-month period studied, and the average number of employees remained constant, the annual turnover rate would be four times those reported.

Characteristics and skills desired for specific employees

The managers were asked what characteristics and skills they believed were desirable and most important for specific employees. Technical skills of the head cook and dishwashing machine operator were considered more important than their personal characteristics or skills. The managers placed a much higher value on the personal characteristics or skills of the waitress than on technical skills. The characteristic or skill considered most important by the managers for the head cook was work methods with food; for the dishwashing machine operator, sanitation skills; and for the waitress, personal qualities.

Employee training

Managers in 61 percent of the restaurants which had employees other than the manager reported that they provided training for their employees. The proportion of restaurants providing training increased directly with sales volume.

Questions on training were asked for three specific jobs: head cook, dishwashing machine operator, and waitress. The types of training are shown in Table 6.[1] For the three jobs studied, almost all training was conducted by an informal on-the-premises method, the predominant type being that defined as hit-and-miss. There was little evidence of a planned schedule for training employees.

Table 6. Type of training for head cooks, dishwashing machine operators, and waitresses (Iowa, 1966)

Type of training	Percent of restaurants providing training Head cook	 Dishwashing machine operator	 Waitress
Off-the-premises*	0.9	0.0	0.0
On-the-premises	(49.1)	(77.7)	(62.1)
Formal			
Off-station	0.1	0.0	0.0
On-station	0.2	0.0	0.0
Informal			
Tag	3.9	20.1	16.4
Hit-and-miss	41.7	57.6	45.3
Experience	3.2	0.0	0.4
Manager interviewed had not hired for position	15.4	2.6	0.4
No training	35.5	18.4	36.7
No response	0.0	1.3	0.8
Total*	100.0	100.0	100.0

*Individuals who received off-the-premises training also received on-the-premises training. Therefore, the figures for off-the-premises training are not included in the total.

Training periods were relatively short. The majority of the managers responding to the questions on training reported training periods of less than one month for head cooks and waitresses, and a training period of one day or less was reported by almost half of the managers for dishwashing machine operators.

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[1] On-the-premises training, which is conducted at the respective restaurant, is divided into formal and informal methods. Formal training includes a planned sequence of experiences for an employee and is conducted either off or on the work station. Informal training does not include a planned sequence of experiences; the new employee may tag after another employee, the supervisor may instruct in a hit-and-miss fashion, or work experience through subordinate jobs may be required. Off-the-premises training is training conducted away from the restaurant while the employee is in the employ of the restaurant.

In over half of the restaurants, for which the information was given regarding the person doing the training, the manager was responsible for training.

Training needs perceived by restaurant managers and restaurant management educators

In 1967, following the survey of restaurants which revealed characteristics of restaurants and restaurant managers, present employment, labor turnover, and employee training in restaurants, a study was made of the training needs of restaurant managers and supervisors, cooks, and waitresses as perceived by restaurant managers and restaurant management educators.

A questionnaire was sent to the same respondents who had been randomly selected for the 1966 survey. Of the 392 restaurant managers in the sample, 88, or 22 percent, returned analyzable responses. It is estimated that many of the 392 restaurants in the original sample had discontinued business when this questionnaire was mailed; therefore, the percent of responses would actually be higher if based on restaurants then in business.

The questionnaires were also sent to six restaurant management educators, in Iowa and states similar to Iowa in industry and population, to determine whether their ideas of training needs were the same as those of the restaurant managers. The educators were asked to respond for three sales-volume levels.

Training areas for managers and supervisors. The responses of the managers and restaurant management educators were analyzed and expressed as a percentage of the greatest possible need for each training area. Had each respondent considered there was a "great need" for a training area, the result would have been a rating of 100 percent; if "some need" had been indicated by all respondents the result would have been 60 percent; and "little need" by all the respondents as 20 percent. Data, classified by sales volume, were weighted according to the original survey design. A comparison of the relative need for training for managers and supervisors as assessed by the restaurant managers and educators is shown in Table 10 in Appendix A. Training areas are listed in the order of degree of need expressed by managers.

The areas of greatest need for training according to the managers were control of food and labor costs, and the selection and supervision of employees. The educators judged that there was a greater degree of need for training and a need for training in more areas. The areas of training and supervison of employees, control of labor costs, preparation of food, and selection of employees were all considered by the educators to be of high priority.

Both the managers and educators considered the control of labor costs, supervision of employees, and the selection of employees as areas of training particularly needed for the managers and supervisors.

Managers, in general, did not perceive a great need for training in how to train employees; whereas, this area was of first priority in the view of the educators.

According to the managers, the need for training did not vary appreciably with the sales volume of the restaurant, but the educators perceived the needs to be different.

Training areas for cooks. A comparison of the need for training for cooks as assessed by the managers and the educators is shown in Table 11 in Appendix A. The managers and the educators considered training was needed in all the areas listed for the cook. The managers gave priority to food cost control and work methods, and the educators to work methods, sanitation, and preparation of quality food. The greatest variation among sales volume levels was for the managers' estimate of the need for training in sanitation. A greater need for training in this area was expressed by the managers of low-volume restaurants.

Training areas for waitresses. The relative need for training for waitresses, as judged by the managers and the educators, is shown in Table 12 in Appendix A. The greatest need for training for waitresses as recognized by both managers and educators, was in the area of good service. The second need according to the managers was for training in the development of personal qualities, whereas the educators placed second the need for training in sanitary procedures.

The greatest variation in relation to sales volumes was the educators' assessment of need for developing personal qualities and good grooming. They believed the need for this type of training was greatest in the low-volume restaurants.

Conditions for training programs. The managers were requested to indicate their time preferences for training programs and other information which would be useful in planning programs to meet their needs. Training for managers was preferred in January and February, for one day a week, and from 2 to 4 in the afternoon. Training for employees was preferred in January, February, or March for one day a week, and from 3 to 4 in the afternoon or from 9 to 10 in the morning. Although one day of training per week was preferred for their employees by 42 percent of the managers, over 38 percent preferred two days. Seventy-two percent of the managers indicated they would travel 25 miles, and 30 percent would travel 50 miles to attend training sessions. Sixty-six percent of the managers believed their employees would travel 25 miles, and over 14 percent thought they would travel 50 miles.

The restaurant managers were also questioned relating to attending a training program if one were given. Eighty percent indicated they would attend; over 86 percent would make it possible for their supervisors to attend, and over 94 percent would encourage their employees to attend. Although the majority of managers would not require that their employees attend training sessions, over 61 percent stated that they would pay them while they attended. Some said this would be partial pay, and some indicated that the employees would not receive this pay until they had been back on the job for a stated period of time.

Food Service Departments in Hospitals (5)

Data were collected in a sample of 75 randomly selected hospitals in 52 counties in Iowa. This was nearly half of the population of 158 hospitals in Iowa studied.[1]

Hospital characteristics

Ownership of the hospitals varied as follows:

Ownership	Percent of hospitals
Non-profit association or charitable institution	39
County	32
City	17
Private individual or corporation for profit	8
State or federal	4

The number of licensed beds in the hospitals was estimated to be 18,703. The range was from 12 through 1,192 beds, distributed as shown below:

Licensed beds	Percent of hospitals
Less than 10	0
10-29	15
30-69	41
70-109	14
110-149	8
150-249	9
250-349	9
350 or more	4

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[1] Hospitals not included in the population studied were those directed by the Iowa Board of Control of State Institutions and one Veterans Administration psychiatric hospital. Only one rehabilitation center was included, but six hospitals in the population had rehabilitation beds. Four hospitals included had nursing home beds.

The average occupancy in the hospitals was 79 percent. The highest percentage occupancy was in March, the lowest in August. Slightly over half of the hospitals planned to add beds within the next five years; 10 percent were undecided as to the number to add. From data that specified the number of beds to be added, it was estimated that 3,908 beds were expected to be added within the next five years.

Food service department characteristics

The estimated total number of patient and nonpatient meals served at lunch the day before the survey interview was 28,909. Approximately 50 percent of these meals were served to patients. Of the total number of meals served, 24 percent were general diets, 22 percent modified diets, 1 percent infant formula, 2 percent outpatient meals, 46 percent meals for employees, and 5 percent meals for visitors.

Some of the meals were served to special nonpatient groups. Approximately 72 percent of the hospitals served special groups. Midnight meals were provided by 67 percent of the hospitals for their employees. Approximately 94 percent served nourishments between meals.

The type of service to patients varied. Seventy-six percent used bedside trays only. The remaining hospitals used bedside trays and table service or cafeteria service. The method of tray service was centralized in 81 percent of the hospitals; decentralized in 8 percent; and combinations of centralized, decentralized, and cafeteria service in the remaining hospitals.

Cycle menus were used in 59 percent of the hospitals; 52 percent of the cycle menus were for four weeks or less. Selective menus were used for patients on general diets in 34 percent of the hospitals. In 19 percent menus were planned less than a week in advance.

Managers

About 40 percent of the food service department managers[1] had been managing the food service department less than five years. Eighty-eight percent had had training or experience in food service; about 40 percent had previous experience at the management or supervisory level. Only 69 percent had participated in food service training programs: baccalaureate degree, 33 percent; nonacademic short-term training, 33 percent; special diet training, 3 percent.

About 25 percent of the managers were dietitians and members of The

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[1] In each hospital one individual, having overall responsibility for dietary service, was designated for purposes of this study as the food service manager.

American Dietetic Association.[1]

The responsibilities reported by 50 percent or more of the managers were:

Responsibility	Percent of managers
Supervising employees	96
Training employees	92
Planning general diets	88
Purchasing	88
Planning modified diets	81
Checking patients' trays	75
Hiring employees	69
Instructing patients on diets	65
Keeping records	64
Discharging employees	61
Hosting	58

The managers were asked first to name their major responsibilities. After this free response was completed, they were asked to respond to a list of other responsibilities. In the free response only 16 percent indicated overall management and supervision; apparently, most managers did not perceive their overall management function.

Thirty-nine percent of the managers performed the nonsupervisory job of cooking. This situation may exist because the very small food service departments have no other or few employees other than the manager.

Cooking was considered to be the most time-consuming duty by 25 percent of the managers, and planning general diets and supervising employees were the most time-consuming for 23 and 21 percent respectively.

The most frequently mentioned managerial problems were general labor problems and procuring labor. Eight percent of the managers stated that they had no managerial problems.

Employees

Many food service department employees' work encompassed a combination of jobs, such as kitchen helper, dishwasher, and tray girl. Therefore, to determine the number of persons in each job category, each employee was classified by the job occupying the majority of his time.

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[1] According to the Iowa Department of Health, as of May 1968 all except 20 hospitals in Iowa had a dietitian as manager of the dietary department or had the services of a consultant who was then or previously had been a member of The American Dietetic Association. In 16 of these 20 hospitals, the consultant met the academic requirements for membership in The American Dietetic Association.

The total number of employees in the 158 hospitals was estimated to be 4,183, including both full-time and part-time personnel. The distribution of personnel was 12 percent management and supervisory personnel and 88 percent nonsupervisory personnel.

Ratios of the number of beds and the number of noon meals served per employee and per full-time employee equivalent were as follows:

	Ratio
Beds per employee	4.5
Noon meals per employee	6.9
Beds per full-time employee equivalent	5.6
Noon meals per full-time employee equivalent	8.6

(The proportion of part-time to full-time hours was used in converting part-time employees to full-time employee equivalents.)

Comparison of the average number of meals served per employee equivalent with the total number of meals served at noon showed that, on the average, hospitals serving 480 or more meals served 8.6 or more meals per full-time employee equivalent, and hospitals serving less than 60 meals served less than 8.6 meals per full-time employee equivalent. The range for 91 percent of the 158 hospitals was 5 to 15 meals at noon per full-time employee equivalent.

More females than males were employed. Women constituted 89 percent of management and supervisory personnel and 69 percent of nonsupervisory personnel. For some jobs either males or females were employed.

Hours, wages, and fringe benefits

The number of working hours and days per week is shown below:

Personnel	Hours	Days
Manager	37.8	5.2
Other management and supervisory		
Full-time	42.5	5.2
Part-time	12.6	2.2
Nonsupervisory		
Full-time	40.4	5.1
Part-time	18.8	4.2

Although managers worked less than 40 hours a week on the average, they worked more than five days a week, as did the other full-time personnel.

Some part-time managers were included in the average.

The average beginning wage for nonsupervisory jobs was $1.19 per hour for full-time employees and $1.03 for part-time employees. The average highest wage for nonsupervisory personnel was $1.49 per hour for full-time employees and $1.15 for part-time employees. Hospitals with a bed capacity of 350 or more consistently paid higher wages than the smaller hospitals. The average beginning and highest hourly wages for selected full-time nonsupervisory personnel were as follows:

Job title	Wages per hour Beginning	Wages per hour High
Cook, head	$1.19	$1.48
Dishwasher	1.15	1.45
Tray girl	1.10	1.38

Salaries for management and supervisory personnel are not presented because of the heterogeneous nature of the group.

Fringe benefits given by the 145 hospitals with paid management and supervisory personnel and the 156 hospitals with paid nonsupervisory personnel are shown below:

Fringe benefit	Percent of hospitals providing fringe benefit: Management & supervisory	Percent of hospitals providing fringe benefit: Non-supervisory
Holidays	93	90
Vacation	97	96
Sick leave	87	86
Meals	54	59
Uniforms	9	9
Laundry of uniforms	26	20

The provision of benefits for the groups of personnel was similar.

Labor turnover

The labor turnover rate for each job was determined from the number of terminations during the three-month period prior to the survey. The labor turnover formula used was:

$$\text{Labor turnover} = \frac{\text{Number of terminations X 100}}{\text{Number of employees}}$$

The average turnover for the three-month period is shown below:

Personnel	Average percent of turnover for three months
Management and supervisory	
Full-time	2.1
Part-time	0.0
Nonsupervisory	
Full-time	8.0
Part-time	8.3

Turnover tended to increase as bed capacity increased, except that the highest turnover occurred in hospitals with 150 to 249 beds.

If the number of terminations were at the same rate for the other nine months of the year, and the average number of employees remained constant, the annual turnover rate would be four times those reported. The number of unfilled positions was estimated to be 22 management and supervisory positions and 98 nonsupervisory positions.

Employee training

Ninety-one percent of the hospitals provided training. For a determination of the method of training, the length of training, and the person who did the training, questions on training were asked for three jobs: head cook, dishwashing machine operator, and tray girl. As shown in Table 7, almost all training was conducted by an informal, on-the-premises method.[1]

There was little evidence of a planned schedule for training employees. Most of the informal, on-the-premises training was the type defined as tag or hit-and-miss.

Training periods were relatively short. Approximately 50 percent of the hospitals had training periods of less than one month for the head cook, less than five days for the dishwashing machine operator, and less than two weeks for the tray girl. The manager was most often responsible for training the head cook, and another employee was most often responsible for training the dishwashing machine operator and the tray girl.

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[1] See footnote on page 21.

Table 7. Type of training for head cooks, dishwashing machine operators, and tray girls (Iowa, 1966)

	Percent of hospitals providing training		
Type of training	Head cook	Dishwashing machine operator	Tray girl
Off-the-premises*	7.7	1.5	3.4
On-the-premises	(50.8)	(74.7)	(76.2)
Formal			
Off-station	0.0	1.5	1.7
On-station	6.2	0.0	1.7
Off-station & on-station	4.6	0.0	5.1
Informal			
Tag	13.8	47.8	49.2
Hit-and-miss	20.0	17.9	18.5
Experience	6.2	1.5	0.0
Vendor	0.0	6.0	0.0
Manager interviewed had not hired for position	30.6	10.4	6.8
No training	12.4	10.4	13.6
No response	6.2	4.5	3.4
Total*	100.0	100.0	100.0

*Individuals who received off-the-premises training also received on-the-premises training. Therefore, the figures for off-the-premises training are not included in the total.

Food Service Departments in Nursing Homes (1)

Data were collected in a sample of 65 randomly selected nursing homes in 27 counties in Iowa. This was about one-sixth of the 436 nursing homes estimated to be operating in Iowa at the time of the survey.

It was necessary to set certain criteria in defining the population of the institutions to be sampled, as some institutions had a combination of bed types. Hospitals were classified as hospitals even though they had nursing home beds, and a combination of nursing home and custodial home was classified as a nursing home when there were more nursing home beds than custodial home beds.

Nursing home characteristics

Ninety-five percent of the nursing homes were owned by private individuals or corporations for profit, and the remaining 5 percent were owned by nonprofit associations or charitable institutions.

There were an estimated 16,046 licensed beds in the 436 nursing homes. The range was from seven through 165, distributed as follows:

Licensed beds	Percent of nursing homes
Less than 10	6
10-19	38
20-29	11
30-69	32
70-109	9
110-149	2
150-249	2

Over half of the nursing homes had a constant bed count throughout the entire year. Average occupancy was 95 percent, and there was a gradual increase in patients during the year. In spite of this high occupancy rate and the increase in number of patients, nearly 80 percent of nursing home managers reported no plans to add beds within the next five years.

Food service department characteristics

The estimated total number of patient and nonpatient meals served at noon on the day before the survey interview was 18,619. Eighty-two percent of these were served to patients. Of the total number of meals served, 65 percent were general diets, 17 percent modified diets, and the remaining 18 percent meals for employees. Meals to outpatients and visitors were negligible.

Approximately 9 percent of the nursing homes served special nonpatient groups. Midnight meals, usually less than five per night, were provided to employees by 57 percent of the nursing homes. Between meal nourishments were served in 89 percent of the homes.

The type of service to patients varied. Fifty-five percent of the nursing homes used either bedside trays or table service, while 32 percent provided only bedside tray service, and 3 percent provided only table service. Other combinations of service were used by the remaining homes. The method of tray service to bed patients was centralized in 96 percent of the nursing homes; decentralized in 1 percent; and no bed patients were reported by 3 percent of the homes.

Cycle menus were used in 51 percent of the homes; 57 percent of the cycle menus were for four weeks or less. A selective menu was offered to all patients on a general diet in 14 percent of the homes and to some patients in 2 percent of the homes. Menus were planned less than a week in advance in 14 percent of the nursing homes.

Managers

Based on information from the sample, it was estimated that all of the nursing homes operated their own food service departments. About one-third of the nursing home food service managers had been managing the department less than five years. In 62 percent of the nursing homes, the manager of the food service was also the owner of the institution.

Managers[1] in 72 percent of the nursing homes reported some previous experience or training in food service. Only 15 percent, however, had participated in a formal food service training program; 14 percent had nonacademic short-term training, and 1 percent had technical food service training. None of the managers had a baccalaureate degree in any area related to food or food service.

Forty-nine percent of the food service managers reported food service experience at the nonsupervisory level; 12 percent reported cooking for the family as their only previous food service experience. Only 9 percent reported previous food service supervisory experience. There were no dietitians employed in nursing homes on a full-time basis.[2]

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[1] In each nursing home one individual, having overall responsibility for dietary service, was designated for purposes of this study as the food service manager.

[2] As of January 1968, according to information from the Iowa Department of Health, almost 15 percent of the nursing homes in Iowa engaged the services of a part-time dietary consultant. Almost two-thirds of these consultants were then or had been previously members of The American Dietetic Association, almost one-third had met the academic requirements for membership in The American Dietetic Association, and approximately 6 percent had received their degree in Home Economics Education and had had some food service experience.

Responsibilities reported by 50 percent or more of the managers were:

Responsibility	Percent of managers
Planning general diets	92
Supervising employees	90
Purchasing	89
Planning modified diets	83
Checking patients' trays	80
Training employees	80
Discharging employees	77
Keeping records	77
Hiring employees	76
Hosting	72
Cooking	69
Instructing patients on diets	51

Managers were first asked to name their major responsibilities. After this free response was completed, they were asked to respond to a list of other responsibilities. In the free response, only 14 percent indicated overall or general management and supervision as a major responsibility; apparently, most managers did not perceive their overall management function.

Included in the responsibilities reported by 50 percent or more of the managers were two nonsupervisory jobs, hosting and cooking. This finding may be the result of many food service departments having no other or few employees in addition to the manager.

Cooking, planning general diets, and purchasing were reported as the most time-consuming duties by 42, 20, and 19 percent of the managers respectively.

The most frequently stated problem was general labor problems; other problems related to labor were frequently mentioned as well. Keeping the patients happy was often mentioned as a problem. Eighteen percent of the food service department managers stated they had no managerial problems.

Employees

Many employees' jobs were a combination of jobs, such as kitchen helper, dishwasher, and tray girl. To determine the number of personnel in each job category, each employee was classified by the job which occupied the majority of his time.

In the 436 nursing homes, the estimated total number of full- and part-time employees at the time of the interviews was 2,393. Twenty-one percent were management and supervisory, and 79 percent were nonsupervisory personnel. More part-time than full-time workers were employed in each classification.

Ratios of the number of licensed beds and number of noon meals served per dietary employee and per full-time employee equivalent were as follows:

	Ratio
Beds per employee	6.7
Noon meals per employee	7.8
Beds per full-time employee equivalent	10.3
Noon meals per full-time employee equivalent	11.9

(The proportion of part-time to full-time hours was used in converting part-time employees to full-time employee equivalents.)

Comparison of the average number of meals served employee equivalent with the total number of meals served at noon showed that, on the average, nursing homes serving less than 60 meals served less than 11.9 meals per employee equivalent, and those serving 60 or more noon meals served more than 11.9 meals per full-time employee equivalent. The range for 86 percent of the nursing homes was 5 to 20 meals at noon per full-time dietary employee equivalent.

More females than males were employed in nursing homes. Women constituted 84 percent of management and supervisory personnel and 97 percent of nonsupervisory personnel. For some jobs, either males or females were employed.

Hours, wages, and fringe benefits

The number of working hours and days per week is shown below:

Personnel	Hours	Days
Manager	32.0	6.2
Other management and supervisory		
Full-time	51.9	5.7
Part-time	10.8	3.4
Nonsupervisory		
Full-time	42.2	5.6
Part-time	17.5	3.9

The food service department manager worked the least number of hours per week; however, approximately half of the managers were employed only part-time in the food service department. On the average, all full-time personnel worked more than five days a week as did the managers.

Data concerning the beginning and highest wage were requested for each job. When considering wages for paid management and supervisory personnel, it should be noted that in 55 percent of the nursing homes there were no paid management and supervisory personnel. This occurred in homes where the manager of the food service was also the owner of the institution. Exclusive of the owner-managers, the average beginning wage for full-time management and supervisory personnel was $215 per month, and the average high was $271 per month. The average beginning wage for nonsupervisory jobs was $.95 per hour for full-time employees and $.90 for part-time employees. The average highest wage for nonsupervisory personnel was $1.15 for full-time employees and $1.07 for part-time employees. No bed capacity group consistently paid a higher wage rate for nonsupervisory personnel. Nursing homes in the bed capacity range of 10 to 19 beds paid the lowest wages. The average beginning and highest hourly wages for selected full-time nonsupervisory personnel were as follows:

	Wages per hour	
Job title	Beginning	High
Cook, head	$1.05	$1.36
Dishwasher	.88	1.04
Tray girl	.80	.99

Fringe benefits given by the 195 nursing homes with paid management and supervisory personnel and the 423 nursing homes having paid nonsupervisory personnel are shown below:

	Percent of nursing homes providing fringe benefit	
Fringe benefit	Management & supervisory	Non-supervisory
Holidays	14	18
Vacation	79	65
Sick leave	34	28
Meals	76	84
Uniforms	0	0
Laundry of uniforms	0	6

Except for the provision of vacations, the provision of fringe benefits for the two groups was similar.

Labor turnover

The labor turnover rate for each job was determined from the terminations during the three-month period prior to the survey. The labor turnover formula used was:

$$\text{Labor turnover} = \frac{\text{Number of terminations X 100}}{\text{Number of employees}}$$

If the number of terminations were at the same rate for the other nine months of the year, and the average number of employees remained constant, the annual rate of turnover would be four times those reported.

No turnover was reported for management and supervisory personnel in nursing home food service departments for the three-month period studied. Average turnover was 6.4 percent among both full and part-time nonsupervisory employees. The greatest turnover for the three-month period was for the full-time position of dishwasher, 19 percent.

There were an estimated 14 unfilled positions in nursing homes throughout the state, all for part-time nonsupervisory personnel.

Employee training

Sixty-seven percent of the nursing homes provided some training. To determine the method of training, the length of training, and the person who did the training, questions on training were asked for three jobs: head cook, dishwashing machine operator, and tray girl. As shown in Table 8, almost all training was conducted by an informal, on-the-premises method.[1] Most was conducted by the tag or hit-and-miss method.

Training periods were relatively short. Over 50 percent of the nursing homes had training periods of less than two weeks for the head cook, under five days for the dishwashing machine operator, and one week or less for the tray girl. The manager was most often responsible for training the employees.

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[1] See footnote on page 21.

Table 8. Type of training for head cooks, dishwashing machine operators, and tray girls (Iowa, 1966)

Type of training	Percent of nursing homes providing training Head cook	Dishwashing machine operator	Tray girl
Off-the-premises*	9.3	2.3	0.0
On-the-premises	(72.0)	(73.1)	(84.5)
Formal			
Off-station	0.0	0.0	0.0
On-station	0.0	0.0	0.0
Informal			
Tag	31.3	26.6	46.0
Hit-and-miss	37.4	42.2	38.5
Experience	3.3	0.0	0.0
Vendor	0.0	4.3	0.0
Manager interviewed had not hired for position	6.1	4.3	11.5
No training	18.7	22.6	4.0
No on-the-premises training	3.3	0.0	0.0
Total*	100.1	100.0	100.0

*Individuals who received off-the-premises training also received on-the-premises training. Therefore, the figures for off-the-premises training are not included in the total.

Food Service Departments in Custodial Homes (4)

Data were collected by means of personal interviews in a sample of 58 randomly selected custodial homes in 25 counties in Iowa. This represented approximately one-sixth of the estimated 343 custodial homes in the state.

In defining the population of custodial homes in Iowa for this survey, if an institution had both nursing and custodial home beds, the institution was classified according to the type of beds in greatest number.[1]

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[1] Late in the study it was discovered that one home classified as a custodial home was actually licensed as a nursing home and had no custodial beds. Because the home could not be incorporated in the concluded nursing home study and because it was felt the overall findings would not be affected appreciably, this home was retained in the custodial home sample and treated as a custodial home.

Custodial home characteristics

Approximately two-thirds of the custodial homes in Iowa were owned by private individuals or corporations for profit. Nearly one-fifth were owned by counties, and the remainder by non-profit associations or charitable institutions as shown below:

Ownership	Percent of custodial homes
Private individual or corporation for profit	69
County	19
Non-profit association or charitable institution	12

There were an estimated 11,239 licensed beds in the 343 custodial homes. Of this total, 10,307 were custodial home beds and 932 were nursing home beds. The number of licensed custodial beds ranged from two to 191 and of licensed nursing home beds from eight to 59. Sixty-three percent of the homes were licensed for less than 20 combined custodial and nursing beds as shown below:

Licensed beds	Percent of custodial homes
Less than 10	34
10-19	29
20-29	9
30-69	14
70-109	4
110-149	5
150-249	5

Average occupancy was 87 percent with a high in December and lows in June and July.

Expansion of bed capacity was planned for only 9 percent of the custodial homes. A total of 1,290 beds were expected to be added within the next five years.

Food service department characteristics

An estimated total of 11,292 meals were served at lunch on the day before the interview. Eighty-four percent of the meals were served to patients. Of the total number of meals served, 73 percent were general and 11 percent modified diets, 14 percent were employee meals, and 2 percent were meals to visitors.

Nineteen percent of the custodial homes served meals to special groups, such as the Board of Directors or Supervisors, promotional groups, or devotional service sponsors. Between meal nourishments were provided for patients by 83 percent of the homes, and 17 percent provided a midnight supper for employees. All homes reporting midnight suppers provided less than five meals.

The type of service to custodial home patients varied. In 43 percent of the homes, meals were served either at a table or on a bedside tray; whereas 33 percent utilized table service only, and 19 percent used bedside trays only.

Cycle menus were used in only 19 percent of the custodial homes; 50 percent of the cycle menus were from four to six weeks in length, and the remainder were for a shorter period. A selective menu was offered to patients on a general diet in 10 percent of the homes. In an additional 10 percent of the homes either a selective menu was offered only to some patients or the selection was limited either to certain meals or to certain food categories, as vegetables or dessert. In 36 percent of the custodial homes, menus were planned less than a week in advance.

Managers

About 40 percent of the managers[1] had been managing the food service department less than five years. Sixty-four percent of the food service department managers were also the owner-managers of the custodial homes. Managers in 79 percent of the custodial homes reported some kind of previous training or experience in food service. Only 5 percent reported participation in a food service training program, 2 percent in a baccalaureate degree program, and 3 percent in nonacademic short-term training programs. Thirty-six percent of the managers reported food service experience at the nonsupervisory level; an equal percentage reported their only previous food service experience to be cooking for the family. Twelve percent reported previous management and supervisory experience in food service.

The managers were asked for their responsibilities in the food service department. Managers were first asked to name their major responsibilities. After this free response was completed, a list of other responsibilities was read to which they were asked to respond. The responsibilities that were reported by 50 percent or more of the managers are shown below:

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[1] In each custodial home one individual, the one most responsible for production and service of the food, was designated as the food service manager.

Responsibility	Percent of managers
Purchasing	98
Planning general diets	95
Supervising employees	89
Checking patients' trays	86
Keeping records	84
Planning modified diets	83
Hiring employees	81
Training employees	80
Cooking	78
Discharging employees	77
Instructing patients on diets	69
Hosting	64
Waiting tables	60

Purchasing, planning general diets, and supervising employees were the most frequently cited specific responsibilities. The nonsupervisory responsibilities of cooking, hosting, and waiting tables were reported by over 50 percent of the food service department managers. In many cases, the food service had no other or few employees besides the manager which might account for the high percentage of managers reporting these responsibilities. In the free response, only 22 percent of the managers indicated overall or general management and supervision as a major responsibility.

The responsibilities reported as most time-consuming were cooking, planning general diets, and purchasing. These were mentioned by 40, 21, and 17 percent of the food service managers respectively.

Thirty-four percent of the food service department managers reported they had no managerial problems. The most frequently mentioned problems reported by the remaining 224 managers related to labor procurement, food cost, and menu planning.

Employees

Many of the employees held jobs which were a combination of jobs, such as cook, dishwasher, and tray girl. When considering the number of personnel in each job, the employee was classified by the job which occupied the majority of his or her time.

During the time of the interviewing, there were 1,708 persons employed in the 343 custodial homes. Twenty-four percent were employed as management and supervisory personnel while 76 percent were nonsupervisory personnel. More part-time than full-time workers were employed in each classification. The majority of both full and part-time management and supervisory personnel were food service managers, 67 and 92 percent respectively. Head cooks represented the greatest percentage of full-time nonsupervisory personnel, 35 percent, and waitresses the greatest percentage of part-time personnel, also 35 percent.

Ratios of the number of licensed beds and number of noon meals served per employee and per full-time employee equivalent were figured. (The proportion of part-time to full-time hours was used in converting part-time employees to full-time employee equivalents.) These are shown below:

	Ratio
Beds per employee	6.6
Noon meals per employee	6.6
Beds per full-time employee equivalent	9.8
Noon meals per full-time employee equivalent	9.8

When filled beds rather than licensed beds were used as the base, the average ratio decreased to 5.7 filled beds per employee and 8.5 per full-time employee equivalent. Seventy-four percent of the custodial homes fell within the range of serving five to 20 noon meals per full-time employee equivalent. No trend emerged as to the progression of the average ratio of number of noon meals served per full-time employee equivalent when custodial homes were grouped according to the number of noon meals served.

Eighty-eight percent of the management and supervisory personnel and 83 percent of the nonsupervisory personnel were women. For some jobs either male or female personnel was employed.

Hours, wages, and fringe benefits

The average number of hours and days custodial home food service department personnel worked per week is shown below:

Personnel	Hours	Days
Manager	33.0	6.7
Other management and supervisory		
Full-time	41.2	6.1
Part-time	28.0	6.9
Nonsupervisory		
Full-time	43.8	5.8
Part-time	20.0	4.3

The average of 33 hours per week for the manager reflects only that share of time given to the food service department. With the exception of part-time nonsupervisory personnel, all other employees worked more than five days a week.

Wages reported are for the spring of 1966. The beginning and highest wage were asked for each job. Exclusive of the owner-managers, the average beginning wage for full-time management and supervisory personnel in custodial homes was $285 per month. Average wages for nonsupervisory personnel for which wages were most frequently reported are shown below:

Job title	Wages per hour Beginning	 High
Cook, assistant	$1.08	$1.21
Cook, head	.92	1.05
Waitress	1.10	1.12

The seeming discrepancy between the average wages reported for head cooks and assistant cooks might be explained by the fact that the head cooks for whom wages were reported worked predominantly in non-urban areas where beginning and highest wages were lower than in urban areas. The assistant cooks for whom wages were reported were employed about equally in urban and non-urban areas. The average beginning wage for all nonsupervisory jobs was $1.02 for full-time and $.91 for part-time. The average highest wage was $1.11 for full-time and $1.03 for part-time nonsupervisory personnel.

Information concerning fringe benefits was obtained from the 131 custodial homes with paid management and supervisory personnel and the 237 custodial homes having paid nonsupervisory personnel. Fringe benefits for food service employees were given by these homes as follows:

Fringe benefit	Percent of custodial homes providing fringe benefit Management & supervisory	 Non-supervisory
Holidays	27	28
Vacation	82	62
Sick leave	59	45
Meals	82	90
Uniforms	0	3
Laundry of uniforms	36	26

A slightly greater percentage of custodial homes provided paid holidays, meals, and uniforms to nonsupervisory than to management and supervisory personnel. More custodial homes, however, provided paid vacations, sick leave, and laundry of uniforms to management and supervisory than to nonsupervisory employees.

Labor turnover

The labor turnover rate was determined for each job based on the terminations during the three-month period prior to the interviews.

The labor turnover formula used was:

$$\text{Labor turnover} = \frac{\text{Number of terminations} \times 100}{\text{Number of employees}}$$

If the number of terminations were the same for the other nine months of the year, and the average number of employees remained constant, the annual rates of turnover would be four times those reported. Labor turnover rates for three months are shown below:

Personnel	Average percent of turnover for three months
Management and supervisory	
Full-time	3.6
Part-time	2.5
Nonsupervisory	
Full-time	5.3
Part-time	6.5

Those custodial homes with a licensed capacity of 150 to 249 beds had the highest labor turnover rates for both full-time management and supervisory and nonsupervisory personnel. Custodial homes with less than 10 beds had the highest turnover of part-time nonsupervisory personnel.

There were six unfilled food service department positions for management and supervisory personnel and 30 for nonsupervisory personnel in custodial homes.

Employee training

Employee training was reported to be provided in 55 percent of the custodial homes which had employees. Questions on training were asked for three specific jobs, those of head cook, dishwashing machine operator, and tray girl, to determine the method and length of training and who did the training.

As shown in Table 9, for the three jobs studied, all training was conducted by an informal, on-the-premises method; the hit-and-miss method was most frequently reported.[1] Half of the custodial homes having the positions of head cook and tray girl provided no training for the job. Training periods were relatively short and were reported by the majority of managers providing length of training information as three weeks or less for head cooks, eight hours or less for dishwashing machine operators, and one week or less for tray girls. The food service manager was most frequently indicated as the person responsible for training the head cook and dishwashing machine operator. The food service manager and/or food service supervisor was most frequently mentioned as responsible for training the tray girl.

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[1] See footnote on page 21.

Table 9. Type of training for head cooks, dishwashing machine operators, and tray girls (Iowa, 1966)

	Percent of custodial homes providing training		
Type of training	Head cook	Dishwashing machine operator	Tray girl
Off-the-premises*	0.0	0.0	0.0
On-the-premises	(39.9)	(44.3)	(38.6)
Formal			
Off-station	0.0	0.0	0.0
On-station	0.0	0.0	0.0
Informal			
Tag	3.4	6.0	3.9
Hit-and-miss	36.5	35.3	34.7
Experience	0.0	0.0	0.0
Company trained	0.0	3.0	0.0
Manager interviewed had not hired for position	6.7	8.9	0.0
No training	50.0	43.8	57.5
No response	3.4	3.0	3.9
Total*	100.0	100.0	100.0

*Individuals who received off-the-premises training also received on-the-premises training. Therefore, the figures for off-the-premises training are not included in the total.

IMPLICATIONS OF FINDINGS FOR FOOD SERVICE EDUCATION PROGRAMS

Restaurants

The findings from the survey of restaurants suggest possible relationships between practices and outcomes. The variety of work being performed by individual employees and the large proportion of part-time workers emphasize the need for training. Although no evaluation was made of the effectiveness of the restaurants, the extent and kind of training practiced would not seem to contribute to the greatest productivity of personnel or satisfaction in work.

Training is organized instruction directed toward the development or modification of attitudes, technical knowledge, manipulative skills, or problem-solving ability of personnel. The objective is effective and efficient use of personnel in the achievement of organizational goals (2). In the survey, there was very little evidence of planned sequences of training experiences.

The need for training of restaurant managers is supported by the findings of this survey. Less than 5 percent had participated in any formal food service training. Although many aspects of management need consideration, the evidence of the survey seems to support particularly the need for managers to increase the productivity of personnel so that wages and job satisfaction may be increased and labor turnover reduced. Educational programs are needed to help managers understand various aspects of management, develop optimum work methods in food production and service, and learn effective methods of on-the-job training. When planning such programs the large proportion of small sales-volume restaurants must be considered.

In addition to training for managers, supplemental training programs for nonsupervisory food service workers could assist restaurant managers in providing adequate training opportunities for their personnel. Data secured about the restaurants, employment practices, and age, sex, and training of the employees would be of assistance in planning such programs.

In planning educational programs for food service personnel, the perceived training needs of the restaurant managers should be considered as well as the conditions of training which they have indicated were preferred. Since the information about nonsupervisory employees' needs was supplied by the manager, ascertaining the perceived needs of the employees themselves would be an appropriate procedure in the early stages of the training for them.

Both the restaurant managers and the restaurant management educators perceived considerable need for training for managers and supervisors. Since it was known that many of the managers were in the low sales-volume group, areas such as preparation of food and service of food were included on the questionnaire. It is recognized that the areas listed are very interrelated. The restaurant managers were primarily interested in training for themselves and their supervisors in subjects related to food and labor cost control, and the restaurant management educators in training and supervision of employees. Actually the two areas are closely related, for it is usually recognized that if training and supervision are good, the control of costs will follow by decreasing turnover, increasing productivity, and decreasing waste of food.

The restaurant managers and the restaurant management educators perceived considerable need for training of nonsupervisory employees. The educators gave priority to sanitation; however, a few managers commented that they already received help in training in this area from other sources. For the cook, the restaurant management educators perceived a greater need for training in work methods and in preparation of foods than did the restaurant managers. The managers were most interested in the cook's need for training in food cost control. Actually training in work methods and food preparation would help to reduce food costs.

The restaurant manager expressed his need for training in terms of the results he wanted, and the educator in terms of achieving results.

In the findings from the 1966 survey, it was evident that many managers did not perceive themselves as managers, although many of the responsibilities they mentioned were related to management. It is recommended that training programs for managers and supervisors be organized to meet the perceived needs as expressed by the managers, but that they also be designed to develop a basic understanding of management.

Food Service Departments in Hospitals

The data from food service departments in hospitals have many implications for vocational and technical food service education. First, only about 25 percent of the managers were qualified dietitians. Thirty-one percent of all food service department managers had not participated in any type of food service training program, and about 60 percent had no previous food service experience at the management and supervisory level. Because there were many small hospitals, there were many "working managers": 39 percent of the managers had some responsibility for cooking, and for 25 percent it was the most time-consuming task.

The responses regarding responsibilities of managers and most time-consuming responsibilities of managers certainly should be considered in the planning of training programs for these groups. For example, planning general diets was the most time-consuming task for 23 percent of the managers and the second most time-consuming task for 28 percent, even though more than half of the managers used cycle menus and only 34 percent of the hospitals used selective menus for general diets. In 19 percent of the hospitals, menus were planned less than a week in advance. Certainly these findings regarding menu planning indicate a need for training in this area.

The problems most frequently reported by the managers were related to labor. Periods of training for the nonsupervisory jobs studied were often short, and training, when given, usually provided no planned

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sequence of training experiences. These findings suggest that managers should be given help in methods of training.

In addition to training programs for managers, supplemental training programs for nonsupervisory food service workers could provide invaluable assistance to hospitals. The data on hospital characteristics, employment practices, and age, sex, and training of food service employees can be useful in the planning of such programs.

Food Service Departments in Nursing Homes

Formal training in the food service departments in nursing homes was reported by only 15 percent of the food service department managers. Previous food service experience at the nonsupervisory level, other than cooking for the family, was limited to approximately half of the managers, and less than 10 percent had previous supervisory experience in food service. The limited training and experience of the food service managers may be related to the fact that in 62 percent of the nursing homes, the manager of the food service was also the owner of the institution.

Few food service managers reported overall management and supervision of the dietary department as a major responsibility; apparently, they did not perceive their overall management function in relation to the food service. The nonsupervisory jobs of hosting and cooking were specific responsibilities of 72 and 69 percent of the managers respectively. The responsibility of hosting may have resulted from the dual role of nursing home manager and food service manager. For 42 percent of the managers, cooking was reported as the most time-consuming responsibility. Many of the small nursing homes had few paid employees. In these situations the person classified as manager (the one responsible for the dietary service) was also often the cook.

The low labor turnover rates and the small number of unfilled positions in the nursing home food service departments were unexpected findings in view of the average wages paid and the relatively low unemployment rate during the period of the survey. The large proportion of women employees may be a related factor. Although labor turnover was low, labor problems were the most frequently mentioned by the managers of nursing home food service departments.

The training provided for nursing home food service employees was, in most cases, brief and usually informal. The lack of planned training programs was evident. It would seem essential to include in an educational program for managers considerable instruction regarding training methods as well as other aspects of personnel management. It should be emphasized that when the owner-manager of the institution is also manager of the food service, and is responsible for training food service personnel, he should know how to train and also understand the basic principles of food production and service in order to instruct employees effectively.

The replies regarding responsibilities of managers and most time-consuming responsibilities of managers should be considered in the planning of training programs for these groups. For example, 92 percent of the food service managers reported planning general diets as a responsibility, and 20 percent regarded it as their most time-consuming responsibility. When planning training related to menu planning, other findings would be useful, such as that half of the nursing homes used cycle menus and only 14 percent used selective menus for general diets.

Supplemental training programs for nonsupervisory personnel could provide additional assistance to nursing homes. Data secured in the survey regarding characteristics of the nursing homes, and age, sex, and responsibilities of the employees can be useful in developing such programs.

Food Service Departments in Custodial Homes

Ninety-five percent of the food service managers in custodial homes reported no formal food service training, and 88 percent had had no previous management and supervisory experience. In addition, 64 percent indicated no previous food service experience at the nonsupervisory level other than cooking for the family.

Twenty-four percent of the personnel were classified as management and supervisory personnel. The response from over 50 percent of the food service managers that cooking, hosting, and waiting tables were specific responsibilities and that for 40 percent of the managers cooking was the most time-consuming responsibility would indicate, however, that many of the food service department managers also served in nonsupervisory capacities as production and/or service workers. In planning training programs, this information about custodial home food service department managers would need to be considered.

Specific practices reported may provide a basis for planning training program content. For example, planning general diets and purchasing were ranked as most time-consuming responsibilities by many of the managers. Less than one fifth of the homes utilized cycle menus, and in slightly over one-third of the homes menus were planned less than one week in advance. More part-time than full-time personnel were used.

Another aspect to be considered in the education of food service managers is developing the ability and willingness to train personnel. No training was provided for food service employees in 45 percent of the custodial homes. Where training was provided, hit-and-miss methods were most often used, and training periods were short. The food service manager was most frequently indicated as the person responsible for training. Awareness of training methods and their application as well as knowledge of the various food service jobs are needed for effective training of employees.

Supplemental training programs for nonsupervisory personnel could provide additional assistance to custodial homes. Information secured in the survey about custodial homes, employment and training practices, and the age and sex of employees will be of assistance in developing such programs.

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SECTION II

ATTITUDES TOWARD EMPLOYMENT IN THREE FOOD SERVICE JOBS: WAITER, WAITRESS, AND COMMERCIAL COOK

SUMMARY

The first of two major purposes of this part of the study was to develop attitude inventories that could be used in the guidance of pupils considering wage-earning training and/or employment in food service jobs and establish norms to facilitate the interpretation of the scores. The three inventories are Attitude Toward Being a Waiter, Attitude Toward Being a Waitress, and Attitude Toward Commercial Cooking. The second major purpose was to determine whether certain factors were related to the attitudes of high school juniors and seniors, and adults.

This research was carried on by the Department of Home Economics Education, assisted by the Statistical Laboratory and the Department of Statistics, Iowa State University.

The development of the three inventories involved the collection of pools of attitudinal statements and selection of those which were valid and which discriminated well between high and low scorers. The three were then administered to a stratified sample of 775 juniors and seniors in 19 Iowa high schools, and data concerning seven factors were collected simultaneously. Scores used to establish norms were obtained from the responses of 189 girls and 198 boys enrolled in food service courses in four Iowa high schools. A sample of adults living in Des Moines, Iowa, was taken of two income strata, middle and low, by sampling census tracts classified by three criteria: median family income, median years of education of persons at least 25 years old, and cumulative estimates of housing conditions. The inventories and a data sheet were administered by an interviewer to 200 women and 100 men.

Correlations between scores of high school pupils on the inventories and the following factors failed to reveal any meaningful relations: grade level, residence, work experience, job aspiration, socio-economic status, and academic ability. The seventh factor, sex, was, however, related. Boys scored significantly lower than girls on the one inventory administered to both, Attitude Toward Commercial Cooking. The scores of the boys on two inventories correlated at a level that indicates the jobs of waiter and cook form a cluster, but the converse was found for girls; a negative significant correlation indicates that the jobs of waitress and cook are not a cluster.

An item analysis of the responses of a sample of the pupils enrolled in food service courses revealed both positive and negative views of the three jobs. The statements receiving the highest percentage of favorable responses were those relating to working with people. Boys tended to react more favorably to many aspects of the job of cook than that of waiter. Many did not see the latter as a man's job. The girls tended to view the job of waitress as one which anyone can do without much training, but they did see it as worthwhile and interesting. They were uncertain as a group whether it was a good job for someone who wanted to get ahead. Cooking was less frequently characterized as drudgery or monotonous than waiting tables.

The scores of the adults were not related to five of the factors studied: school level, occupation of head of the household, income segment, and technical training. Age was a statistically significant factor for the women. The mean scores on the waitress inventory increased linearly with age, and those on the cook inventory were highest in the over 50 age group and lowest in the middle group, 30 to 50. The mean scores of both men and women were significantly higher for those having had food service experience; also they were higher for those indicating that they liked or thought they would like this kind of work.

These recommendations were made:

1. That the inventories be used in the guidance of Iowa high school pupils by comparing their scores with the norms established and that norms be developed for pupils in other states.

2. That a study be made to determine the predictive validity of the inventories both as to success in wage-earning courses in food service and on the job.

3. That the jobs of waiter and cook be considered a cluster when planning guidance programs for boys but those of waitress and cook be considered separately for girls.

4. That an item analysis be made of the responses of pupils enrolled in food service courses to discover educational needs relative to attitudes.

5. That work experience be combined with class activities as one means of developing favorable attitudes toward these jobs.

INTRODUCTION

All too often educators involved in programs for wage earning give consideration only to cognitive and psycho-motors types of learnings. The affective, of which attitudes are a part, need to be recognized also as important at several points in the education process.

Attitudes toward a job frequently influence decisions to prepare for or to enter employment. Assuming that workers are more effective in a job if they have favorable attitudes toward it, estimates of attitude can be used as one basis for vocational guidance and for selection of trainees and employees. Their attitudes upon entrance to training for the job are especially important, since most attitudes do not change readily or quickly. In addition knowledge of what aspects of the job are viewed unfavorably could be used in attempts to change attitudes or to aid employers in making the job more attractive.

One of the principal purposes was to develop inventories which could be used for vocational guidance in the selection of trainees. A review of current instruments revealed none for determining attitudes toward the three jobs under study. This purpose involved not only development but also the establishing of norms to facilitate interpretation of scores on the inventories.

A second major purpose was to determine whether certain factors were related to the attitudes held by juniors and seniors in high school and by certain adults in Iowa. To explore further the nature of the attitudes, an item analysis was made of the responses of a group of pupils enrolled in high school courses related to food service. This analysis also illustrates its usefulness in determining needs for guidance and training programs.

METHODS

Development of the Three Attitude Inventories (1)

The initial step in the development of the attitude inventories involved the collection of a pool of attitudinal statements concerning aspects of each of the three jobs. Several techniques and types of persons were involved. See Appendix B for copies of instruments used to collect attitudinal statements. Interviews were held with waitresses, cooks, and managers of food service establishments. The former were asked such questions as, "Why did you take a job as a waitress or cook?", and "What do you like about this kind of job?". Attempts to interview waiters were unsuccessful because of the almost total lack of full-time waiters in central Iowa. The managers described their most and least successful employee; and members of the Department of Institution Management, Iowa State University, who had had experience with employees of these types, contributed statements. In addition youth and adults not employed in food service jobs were asked such questions as, "Would you ever take a job as a waiter, waitress, or cook?", and "Would you like your son or daughter to be a waiter, waitress, or cook?". Trainees at a school of cosmetology were selected as representing persons who had just made a vocational choice. They responded to these questions: "Why did you choose this vocation?" "Did you consider any other occupation, such as food service?" Two open-ended questionnaires were used with 60 high school boys and girls. These each contained 16 pairs of jobs, and the pupil was asked to select the one preferred as well as to write his reason for preference or lack of preference. The jobs included in the questionnaires were selected considering sex differences in choices. Attitudinal statements were added to the pool by studying attitudinal inventories not relating to food service.

All statements were then judged by the criteria recommended by Edwards (2). Those items meeting the criteria were combined into three preliminary inventories. The Likert method of response was selected as appropriate as well as easy to administer and interpret. A five-point response was used varying from strongly agree to strongly disagree. The statements were classified logically as favorable or unfavorable to the job by three judges. To determine which of the statements in the preliminary inventories discriminated satisfactorily, they were administered to 25 boys and 25 girls, juniors and seniors in high school, and to 25 women employed full-time as cooks or waitresses. The few male employees available in the area were unwilling to cooperate. The responses were scored, and the scores for each sub-group (high school-adult, male-female) were ranked for the appropriate inventory. The scorers who ranked in the upper and in the lower one-third were used as the two criterion groups to select items to be retained. Means and standard deviations were computed for each item for each sub-group. When the mean of the lower scorers was larger than that of the upper scorers for a positive statement, the item was dropped and conversely for the negative statements. In other words, when the difference was not in the expected direction, the item was considered invalid.

The differences between the means of the responses of the two sub-groups of females, high school pupils and women, were examined for each item in the preliminary waitress inventory. The five items which did not yield differences in the expected direction were common to both groups: items 2, 13, 17, 29, and 33, Table 8, Appendix B. In the items for the waiter inventory, three failed this test of validity: items 13, 14, and 17, Table 9. The differences between the means of the items relating to commercial cooking were compared for all three sub-groups. There were nine items which failed to discriminate in the expected direction for at least one of the three sub-groups, Table 10, Appendix B.

The second basis used to select items to be retained was the t-test. Only those which had a t-value of at least .500 for each sub-group involved were selected. This criterion resulted in dropping five additional items from the waitress inventory, leaving a total of 25 items which were valid for administering to both high school girls and women. Two of the five dropped failed to achieve a .500 t-value for girls, and three for women. Of the remaining 33 items in the waiter inventory, six did not achieve a t-value of .500, leaving a total of 27 items. Since 23 items relating to commercial cooking met the two criteria for all three sub-groups, the assumption was made that one inventory could be used with all three. Eliminated were five that were unsuccessful for boys, three for girls, nine for women. Some of these failed to discriminate among more than one sub-group. Copies of the three inventories are in Appendix B.

Determination of Relation of Seven Factors to the Attitudes of Iowa High School Pupils Toward Three Food Service Jobs

To obtain some insight into the attitudes held by pupils and, hence, to facilitate guidance, a study was made of these factors: grade in school, place of residence, work experience, level of job aspiration, socio-economic status, academic ability, and sex. See Appendix B for copy of the Information Sheet.

The grade in school was limited to the two upper grades, eleventh and twelfth, on the assumption that this is the period in which decisions are made regarding college attendance, entrance into employment after graduation from high school, or into a vocational training program. Place of residence was divided into five categories appropriate to Iowa: farm; town less than 1,000 population; town 1,000 to 9,999; town 10,000 to 50,000; and town over 50,000. Academic ability was estimated by using the composite percentile score based on national norms in the Iowa Tests of Educational Development. These tests are the most commonly administered in Iowa schools and are used frequently in research as a measure of academic ability. Socio-economic status was based on father's occupation. These data were supplied by the school personnel administering the inventories. Weights were assigned according to the status ranks on an adaptation of the North-Hatt Scale (3). Work experience included data relative to employment of any type and to employment in a food service job (waiter, waitress, cook, busboy, car hop, etc.). Level of job aspiration was determined by an instrument developed for this study. See Appendix B for a copy of the two forms, Which Job Would You Like?

Data for the investigation of relations of the seven factors to attitudes were collected from 775 pupils in 19 high schools in Iowa. This sample was selected by dividing the state into four geographical areas each having an approximately equal number of junior and senior pupils. To obtain a basis for stratification the high schools in each area were ranked by number of juniors and seniors, also the cumulative population was determined. Each area was stratified into three approximately equal levels, and two schools were selected from each stratum, using a table of random numbers. When the school drawn had a population too small to meet the requirements of approximately 20 juniors and seniors, it was combined with the school in the stratum nearest in size. If the principal of a school was unwilling to participate in the study, it was replaced by a school of similar size in the stratum. Five of the 24 schools did not complete the administration of the materials during the spring or the fall of 1967. See Appendix B for copies of letters, post cards, and directions for collecting the data.

The pupils in the schools drawn were sampled by two methods. If there was a homeroom system, the teachers were instructed to assign each homeroom for juniors and seniors a two-digit number and select one of each using a table of random numbers. Schools not using a homeroom system sent a roster of junior and senior pupils, from which 20 juniors and 20 seniors were systematically selected. All pupils were to respond to the instruments using the response sheets and to fill in the data on the Information Sheet.

The responses of the 381 male and 394 female pupils were scored by assigning weights of five for strongly agree, four for agree, three for uncertain, two for disagree, and one for strongly disagree for the items favorable to the occupation and the converse for those unfavorable. The scores were then correlated with estimates of each factor under study, and the t-test was applied to determine the significance of the coefficients.

Analysis of Responses to the Three Inventories by Pupils Enrolled in Food Service Courses

This analysis was made for the purpose of obtaining some indication of the specific aspects of the jobs that are viewed favorably or unfavorably by enrollees and to demonstrate the usefulness of such an analysis. These data should be revealing to educators concerned with changing attitudes toward these jobs.

The three inventories were administered to pupils enrolled in high school courses planned to contribute to employability in food service jobs. Usable responses were obtained from 189 girls and 198 boys in four Iowa school systems during 1967-68 and 1968-69. Correspondence with administrators in all Iowa systems known to be offering wage-earning courses in home economics indicated that only these four had programs related to food service. In each of them the inventories were administered to the enrollees early in the school year. For this analysis random samples of 64 boys and 61 girls were used and their responses tabulated as favorable or unfavorable by combining the two responses of strongly agree and agree or strongly disagree and disagree. Percentages were computed at the three levels: agree, uncertain, and disagree.

Relation of Seven Factors to the Attitudes of Adults Toward Three Food Service Jobs

Based on the belief that the attitudes of lay adults influence to a considerable extent the attitudes of youth toward jobs in food service, an investigation was made of a sample of adults in one city, Des Moines, Iowa. Originally it was planned to sample the entire state or, at least, several areas, but this did not prove to be feasible. Also the sample in Des Moines was limited to those sections populated largely by families in the middle and low socioeconomic levels. This decision was based on the assumption that persons entering these food service jobs would come most frequently from these two levels.

The purpose of this aspect of the study was to find the relation of the attitudes of adults to seven factors: school level, age, income segment, occupational level, enjoyment of work, technical training, and food service experience. These relationships could be helpful in determining programs to interest youth and adults in training for and entering food service jobs.

The sample based on data from the 1960 Census of Population and Housing compiled by Larson (4) who ranked the 47 census tracts in Des Moines using these criteria: median family income, median years of education completed by persons at least 25 years of age, and cumulative estimates of housing conditions. The mean scores of the ranks of these characteristics were divided into thirds to represent the three socioeconomic levels. The tracts from the middle and low levels were used in selecting the samples of men and women to be included in the present study. A sample was obtained of 200 women, 100 from each socioeconomic level, and 100 men, 50 from each level.

During 1968 interviewers visited the houses drawn and asked the adults to respond to two of the attitude inventories and to fill out a form including data concerning the seven factors. See Appendix B for copy of Information Sheet (Adults). The women responded to the inventories, Attitude Toward Being a Waitress and Attitude Toward Commercial Cooking; the men to the latter and Attitude Toward Being a Waiter.

The factors of school level and occupational level were correlated with scores on the inventories. An analysis of variance was used to explore the relation of the other factors and the attitude scores, where the number of cases in the cells was large enough.

FINDINGS AND ANALYSIS

Relation of Seven Factors to Attitudes of High School Pupils

The scores on the three inventories administered to high school pupils were correlated with seven factors to determine whether the relationships were meaningful for guidance purposes.

Grade level

The hypothesis that grade level is related to attitudes toward these three occupations was rejected since none of the coefficients was significant at the .01 level and all were judged too low to provide practical meaning to the relationship, Table 11 in Appendix B.

Residence

The data on place of residence also failed to support the hypothesis of a meaningful relation. None of the coefficients reached even the .05 level of significance, Table 12 in Appendix B.

Academic ability

This factor as measured by the I.T.E.D., when correlated with the attitude scores, yielded one coefficient significant beyond the .01 level, that of females' attitudes toward the occupation of commercial cooking. Since the coefficient is negative, -0.143, there is a slight tendency for the higher attitude scores to be associated with lower academic ability, Table 13 in Appendix B.

Socio-economic status

Using father's occupation as a basis for estimating socio-economic status, the status ranks were given the values indicated by the first digit in the number of the North-Hatt Scale, i.e., all ranks between 30 and 39 were weighted as 3. None of the correlations was significant at the .05 level, indicating that status as measured by father's occupation was not related to attit[illegible] toward these three occupations, Table 14 in Appendix B.

Work experience

Work experience was explored by two questions: "Have you ever had a part-time or full-time job?", and "If your answer is yes, did you ever have a part-time or full-time job in food service (jobs such as waiter, waitress, cook, busboy, carhop, etc.)?" An affirmative response to the first question was weighted a negative response one; whereas to the second question "yes" was weighted one and "no" two. Only one coefficient, 0.157, achieved a 5 percent level of significance, that of food service experience for males and attitude toward being a waiter, but it is too low to be important for guidance, Table 15 in Appendix B.

Job aspiration

Scores relating to this factor were derived by assigning a value of three to the jobs having the lowest social status, two to those of middle status, and one to those with the highest status. Three of the four correlations are significant beyond the .01 level: Attitude Toward Being a Waiter correlated -0.145 with job aspiration, Attitude Toward Being a Waitress -0.248, and Attitude Toward Commercial Cooking for females 0.189, Table 16 in Appendix B. All of these correlations are low and, hence, must be interpreted with caution. There is some evidence that both males and females with high aspiration tended to view the jobs of waiter and waitress unfavorably and females with high aspirations to view the job of commercial cook favorably.

Sex

The factor of sex was examined with reference to the inventory administered to both males and females, Attitude Toward Commercial Cooking. Also the relation between the scores on the other two inventories were correlated. A t-test of the difference between the means indicates that boys' attitudes toward commercial cooking were lower than girls; 69.6 and 72.8, significant beyond the .01 level. The correlations between the two inventories administered to boys was 0.357and the two administered to girls was -0.064, both significant beyond the .01 level. Positive attitudes of males toward the job of waiter tended to be associated with like attitudes toward cooking, but the converse relationship was found for females. This suggests that for males the two jobs can be considered a "cluster" of occupations, but for females, the two jobs need to be considered separately when recruiting procedures are being planned.

In summary there is reason to believe that attitudes of Iowa high school pupils toward the three food service occupations have little, if any, meaningful relation to six of the factors studied. Most of those found to be significant were too low to provide a basis for vocational guidance. In other words favorable and unfavorable attitudes can be expected without reference to these variables. The one exception is the factor of sex. The scores of males on the two inventories tended to be positively related, but those for females were negatively related.

Item Analysis of Responses to the Inventories by Pupils Enrolled in Food Service Courses

The responses of a random sample of 64 boys and 61 girls enrolled in food service courses were examined after adding the numbers of those indicating agreement (agree and strongly agree) and also those indicating disagreement (disagree and strongly disagree).

Waiter

Looking at the largest percentages in Table 1, it would appear that close to one-half of the boys enrolled in food service courses viewed the job of waiter as worthwhile (Item 1, 46.9 percent), an art (Item 27, 54.7 percent), and requiring skill (Item 7, 42.2 percent). Many of them rejected the statements that the work would be drudgery (Item 3, 48.6 percent), degrading (Item 22, 40.6 percent), or requiring a "strong back and a weak mind" (Item 12, 62.5 percent). The percentages agreeing or disagreeing were almost the same for several statements: Item 5, 34.4 percent and 35.9 percent respectively, interesting job; Item 6, 35.9 percent and 37.5 percent, a monotonous job; Item 7, 42.2 percent and 37.5 percent, a skilled job; and Item 13, 32.8 percent and 32.8 percent, adequate salary. Approximately half rejected the idea that anyone can be a waiter (Item 16, 51.5 percent), and (Item 9, 50.0 percent) saw it as a job that should require special training. These pupils responded most favorably to items relating to relations with people. More than three-fourths (Item 19, 84.4 percent) agreed that a waiter gets to meet interesting people and indicated that they like to work with people (Item 10, 76.6 percent), but many fewer (Item 17, 32.8 percent) indicated an enjoyment of serving food to people. Perhaps the latter reaction is related to the attitude that customers think they are better than waiters (Item 24, 64.1 percent) or that waiters get ordered around by too many people (Item 18, 43.8 percent). It is not surprising that many of these boys questioned the job of waiter as an acceptable male occupation since so few men are so employed in Iowa. Half believed that this is not a man's job (Item 20, 50.0 percent).

Working conditions appear to be factors mitigating against this occupation. More than half (Item 15, 56.2 percent) saw working on holidays and broken work hours (Item 21, 53.1 percent) as unfavorably associated with the job. Close to half did not see it as a good job for young people (Item 11, 45.3 percent) or for others who want to get ahead (Item 23, 54.7 percent), but they were equally divided on letting their son be a waiter (Item 8, 36.0 percent). The long time desire to be a waiter was indicated by a small group (Item 2, 4.7 percent).

Commercial cook: male enrollees

The job of cook was viewed more favorably in most respects than that of waiter by the male pupils, Table 2. Several statements are in both inventories and, hence, it is possible to make direct comparisons of responses from data in Table 1 and Table 2. A much larger percentage (Item 1, 84.4 percent) viewed commercial cooking as worthwhile in comparison with waiter (Item 1, 46.9 percent), but the difference between the two jobs in terms of being desirable work was smaller (Item 6, 56.2 percent and Item 14, 42.2 percent). Almost double the proportion who viewed waiting tables as interesting, saw cooking in this light (Item 5, 34.4 percent and Item 10, 76.6 percent). Also 79.9 percent disagreed with the statement that the job of cooking is drudgery (Item 2); whereas, only 48.4 percent disagreed in relation to waiter (Item 3). The differences in favor of cooking are even larger with respect to monotony of the two jobs (Item 5, 70.4 percent and Item 6, 37.5 percent) and

Table 1. Number and percentage of responses of a random sample of 64 male enrollees to items in the inventory, Attitude Toward Being a Waiter

Items	Agree or strongly agree		Uncertain		Disagree or strongly disagree	
	N	%	N	%	N	%
1. As a waiter, I feel I would be doing something worthwhile.	30	46.9	17	26.5	17	26.6
2. I have always wanted to be a waiter.	3	4.7	13	20.3	48	75.0
3. Being a waiter would be drudgery.	21	32.8	12	18.8	31	48.4
4. Being a waiter requires less education than most occupations.	27	42.2	14	21.9	23	35.9
5. Being a waiter would be an interesting job.	22	34.4	19	29.7	23	35.9
6. Being a waiter is monotonous.	23	35.9	17	26.6	24	37.5
7. Waiters are skilled persons.	27	42.2	13	20.3	24	37.5
8. I would be willing to let my son be a waiter.	23	36.0	18	28.0	23	36.0
9. All waiters should be required to have special training.	32	50.0	15	23.4	17	26.6
10. I like to work with people.	49	76.6	7	10.9	8	12.5
11. This is a good job for young people who want to get ahead.	17	26.6	18	28.1	29	45.3
12. You need a strong back and a weak mind to be a waiter.	19	29.7	5	7.8	40	62.5
13. I could get along on a waiter's salary.	21	32.8	22	34.4	21	32.8
14. Being a waiter is a desirable job.	17	26.6	20	31.2	27	42.2
15. I wouldn't like working on holidays when everyone else is relaxing.	36	56.2	9	14.1	19	29.7
16. Anyone can be a waiter.	25	39.1	6	9.4	33	51.5
17. I would enjoy serving food to people.	21	32.8	24	37.5	19	29.7

Table 1 con't.

Items	Agree or strongly agree		Uncertain		Disagree or strongly disagree	
	N	%	N	%	N	%
18. A waiter gets ordered around by too many people.	28	43.8	16	25.0	20	31.2
19. A waiter gets to meet many interesting people	54	84.4	5	7.8	5	7.8
20. Waiting tables isn't a man's job.	32	50.0	18	28.1	14	21.9
21. I wouldn't like a job which has broken work hours.	34	53.1	12	18.8	18	28.1
22. Table waiting is degrading work.	17	26.6	21	32.8	26	40.6
23. Jobs as waiters are good for someone who wants to get ahead.	11	17.2	18	28.1	35	54.7
24. Customers think they are better than waiters.	41	64.1	15	23.4	8	12.5
25. You can't be a man and a waiter too.	14	21.9	17	26.6	33	51.5
26. I would enjoy the variety of activity in being a waiter.	17	26.6	23	35.9	24	37.5
27. Being a good waiter is an art.	35	54.7	11	17.2	18	28.1

Table 2. Number and percentage of responses of a random sample of 64 male enrollees to items in the inventory, Attitude Toward Commercial Cooking

Items	Agree or strongly agree		Uncertain		Disagree or strongly disagree	
	N	%	N	%	N	%
1. As a cook, I feel I would be doing something worthwhile.	54	84.4	6	9.4	4	6.2
2. Cooking is drudgery.	1	1.6	12	18.7	51	79.7
3. I have always wanted to be a cook.	19	29.7	22	34.4	23	35.9
4. I wouldn't be a cook under any circumstances.	5	7.8	13	20.3	46	71.9
5. Cooking is monotonous work.	7	10.8	12	18.8	45	70.4
6. Cooking requires less education than most other occupations.	14	21.9	9	14.1	41	64.0
7. Cooks are skilled persons.	48	75.0	7	10.8	9	14.2
8. Cooks don't get to work in nice surroundings.	9	14.1	0		55	85.9
9. I would enjoy preparing food to please other people.	41	64.1	10	15.6	13	20.3
10. Being a cook would be an interesting job.	49	76.6	9	14.0	6	9.4
11. I wouldn't like working in a hot kitchen.	19	29.7	16	25.0	29	45.3
12. I would be willing to let my son or daughter be a cook.	40	62.5	15	23.4	9	14.1
13. A cook's pay isn't good enough to support a family.	7	10.8	11	17.2	46	72.0
14. Cooking would be a very desirable occupation.	36	56.2	12	18.8	16	25.0
15. You need a strong back and a weak mind to do this job.	2	3.1	11	17.2	51	79.7
16. Cooks don't get to meet many interesting people.	19	29.7	13	20.3	32	50.0
17. This is a good occupation for young people who want to get ahead.	29	45.3	22	34.4	13	20.3

Table 2 con't.

Items	Agree or strongly agree		Uncertain		Disagree or strongly disagree	
	N	%	N	%	N	%
18. A cook is the most important employee in the restaurant.	44	68.8	10	15.6	10	15.6
19. Cooking is too routine.	16	25.0	13	20.3	35	54.7
20. I would not like working on holidays when everyone else is relaxing.	37	57.8	10	15.6	17	25.6
21. Cooking is a satisfying job.	44	68.8	12	18.8	8	12.4
22. There is too much pressure on a cook to get things done on time.	25	39.0	14	22.0	25	39.0
23. Great skill is required to be a cook.	44	68.8	12	18.7	8	12.5

whether skill is needed (Item 23, 68.8 percent and Item 7, 42.2 percent). A second item (Item 23) involving skill also indicated a favorable response with reference to the occupation of cook; 68.8 percent agreed that it required "great skill." Many more disagreed with the statement that the job requires less education than most other occupations when referring to cooking (Item 6, 64.0 percent) than to waiter (Item 4, 35.9 percent). The idea that a "strong back and weak mind" are needed was rejected by a large majority for both jobs (Item 15, 79.7 percent and Item 12, 62.5 percent). Enjoyment of preparing or serving food to people also was viewed differently; approximately two-thirds (Item 9, 64.1 percent) believed they would enjoy this aspect of cooking; whereas, the largest proportion (Item 21, 37.5 percent) were uncertain with respect to serving food. More than twice as many reacted favorably to the salary for a cook (Item 13, 72.0 percent) as for waiter (Item 13, 32.8 percent). The two statements are not duplicates, however, and this may account in part for the difference in response: "A cook's pay isn't good enough to support a family" and "I could get along on a waiter's salary." Neither job was seen as desirable from the standpoint of having to work on holidays; more than half agreed that this is a disadvantage of both (Item 20, 57.8 percent and Item 15, 56.2 percent). The job of waiter was viewed more favorably in at least one respect; they get to meet many interesting people (Item 19, 84.4 percent agree), but cooks do not (Item 16, 29.7 percent agree). The items in the inventories relating to the occupation being "good for young people who want to get ahead" elicited an agree response from Item 11,(45.3 percent for cook) and a disagree response from the same percentage for waiter (Item 17). Although the statements which refer to allowing an offspring to enter the occupation differed somewhat (the one in the waiter inventory included son; the cook inventory included son or daughter), there is evidence of a considerable difference in acceptance of the two jobs. Almost two-thirds (Item 12, 62.5 percent) indicated a willingness to let their son or daughter become a cook, but slightly more than one-third (Item 8, 35.9 percent) were willing to let their son become a waiter. A somewhat similar item in the commercial cook inventory, Item 17, "This is a good occupation for young people who want to get ahead," brought a 45.3 percent agreement. Not many of the pupils had had a long time goal of entering either occupation; however, the percentages are strikingly different; Item 2, 4.7 for waiter and Item 2, 29.7 percent for cook.

When the responses to items contained only in the commercial cook inventory are examined, additional clues for guidance are revealed. More than two-thirds (Item 18, 68.8 percent) believed that the cook is the most important employee in the restaurant, and also that it is a satisfying job, (Item 21, 68.8 percent). In addition, more than half (Item 19, 54.7 percent) disagreed with the statement that it is too routine, and almost three-fourths reject (Item 4, 71.9 percent) this statement: "I wouldn't be a cook under any circumstances." Their reactions to possible working conditions indicate that as a group they are unconcerned about working in a hot kitchen. Only 29.7 percent would not like this, Item 11. Equal proportions agreed (Item 22, 39.0) and disagreed that there was "too much pressure to get things done." Most (Item 8, 85.9 percent) disagreed, however, with this statement: "Cooks don't get to work in nice surroundings."

The numbers of pupils indicating uncertainty about the statements also are revealing. The percentages varied from 7.8 to 37.5 on the waiter inventory and from 0.0 to 34.4 on the commercial cook inventory. There were 15 items in the former but only three in the latter having uncertain percentages of 25 or more. This difference suggests that, since most of those male students were enrolled in cooking courses, they had a better understanding of the job of cooking than that of waiter. The three eliciting uncertain responses to cook involve long-time interest in being a cook, working in a hot kitchen, and opportunities in the occupation to get ahead (Items 3, 11, and 17). The items having the highest proportion (above 30 percent) of uncertain responses on the waiter scale relate to salary, desirability of the job, enjoyment of serving people, whether job is degrading, and variety of activity, (Items 13, 14, 17, 22, and 26).

Waitress

When the responses of a random sample of the female pupils to the waitress inventory were analyzed, more than one-half saw the job as worthwhile (Item 1, 60.6 percent) and interesting (Item 5, 59.0 percent, Table 3. Somewhat less than half (Item 24, 44.3 percent) said they would enjoy the variety of activities. They disagreed with statements characterizing it as monotonous (Item 9, 49.2 percent), involving drudgery (Item 3, 45.9 percent), and 59.0 percent rejected the statement, "I wouldn't be a waitress under any circumstances," (Item 4). The items relating to preparation for the occupation are also interesting to educators. They were equally divided with reference to the skill required: 40.1 percent agreed and an equal proportion disagreed that waitresses are skilled (Item 7). Although only 32.8 percent (Item 10) saw the need for special training, many of them, 62.3 percent, believed that this job requires less education than most occupations, (Item 6). In fact close to half (Item 16, 42.6 percent) agreed that anyone can be a waitress; however, 32.8 percent were uncertain. An equal proportion (Item 14, 42.6 percent) indicated that what is needed is a "strong back and a weak mind" and less than one-third (Item 25, 29.5 percent) agreed that being a waitress is an art. On the other hand, a large proportion (Item 18, 62.3 percent) saw waitresses as public servants and relatively few believed the work is "degrading" (Item 21, 18.0 percent) or too hard (Item 17, 13.1 percent). One of the four statements in this inventory with which there was the most agreement was: Waitresses are just as good as anybody else" (Item 22, 83.6 percent). Many did not accept the item indicating that waitresses do not have good morals (Item 20, 70.4 percent). The other two high agreement statements related to the opportunity to meet interesting people, (Item 19, 87.6 percent), and liking to work with people, (Item 11, 90.2 percent). Their view of this occupation in terms of getting ahead indicates a need for guidance. The largest group (39.3 percent) disagreed with the statement describing it as good in this respect, and 31.2 percent were uncertain (Item 23). Approximately equal percentages responded likewise to a second item stated in slightly different words, Item 13. They rejected the statement that it is a dead-end job (Item 12, 67.2 percent); however, and more than half (57.4 percent) said they would be willing to let their daughter be a waitress (Item 8, 57.4 percent). Few had always wanted to be a waitress (Item 2, 8.2 percent).

Table 3. Number and percentage of responses of a random sample of 61 female enrollees to items in the inventory, Attitude Toward Being a Waitress

Items	Agree or strongly agree		Uncertain		Disagree or strongly disagree	
	N	%	N	%	N	%
1. As a waitress, I feel I would be doing something worthwhile.	37	60.6	7	11.5	17	27.9
2. I have always wanted to be a waitress.	5	8.2	18	29.5	38	62.3
3. Waitress work is a drudgery.	15	24.6	18	29.5	28	45.9
4. I wouldn't be a waitress under any circumstances.	11	18.0	14	23.0	36	59.0
5. Being a waitress would be an interesting job.	36	59.0	9	14.8	16	26.2
6. Being a waitress requires less education than most occupations.	38	62.3	7	11.5	16	26.2
7. Waitresses are skilled persons.	25	41.0	11	18.0	25	41.0
8. I would be willing to let my daughter be a waitress.	35	57.4	11	18.0	15	24.6
9. Waitress work is monotonous.	18	29.5	13	21.3	30.0	49.2
10. All waitresses should be required to have special training.	20	32.8	13	21.3	28	45.9
11. I like to work with people.	55	90.2	4	6.5	2	3.3
12. Waitress jobs are dead-end jobs.	13	21.3	7	11.5	41	67.2
13. This is a good job for young people who want to get ahead.	22	36.1	13	21.3	26	42.6
14. You need a strong back and a weak mind to be a waitress.	26	42.6	20	32.8	15	24.6
15. Being a waitress is a desirable job.	20	32.8	8	13.1	33	54.1
16. Anyone can be a waitress.	26	42.6	20	32.8	15	24.6
17. Waitress work is too hard.	8	13.1	13	21.3	40	65.6
18. Waitresses are public servants.	38	62.3	19	31.1	12	19.6

Table 3 con't.

Items	Agree or strongly agree		Uncertain		Disagree or strongly disagree	
	N	%	N	%	N	%
19. A waitress gets to meet many interesting people.	53	87.0	4	6.5	4	6.5
20. Waitresses don't have very good morals.	4	6.6	14	23.0	43	70.4
21. Table waiting is degrading work.	11	18.0	20	32.8	30	49.2
22. Waitresses are just as good as anybody else.	51	83.6	5	8.2	5	8.2
23. Waitress jobs are good for someone who wants to get ahead.	18	29.5	19	31.2	24	39.3
24. I would enjoy the variety of activity in being a waitress.	27	44.3	15	24.6	19	31.1
25. Being a waitress is an art.	18	29.5	20	32.8	23	37.7

Commercial cook: female enrollees

In some respects these pupils responded similarly to the two jobs of waitress and commercial cook. A majority saw both as worthwhile and interesting and disagreed with statements describing the jobs as monotonous, Table 4, (Items 1, 5, and 10). Cooking was less frequently viewed as drudgery (Item 2, 13.1 percent) than waiting tables, (Item 3, 24.6 percent) and as monotonous, (Item 5, 18.0 percent and Item 5, 29.5 percent respectively). The belief that the job requires skill was more commonly held in relation to cook than waitress; 72.1 percent agreed that cooks are skilled (Item 7); whereas, only 41.0 percent agreed to a similar statement referring to waitresses, (Item 7). The need for education was viewed very differently; only 23.0 percent agreed that less was required by cooks than most occupations, (Item 6), but 62.3 percent saw waitresses as having lower requirements (Item 6). A large majority rejected the characterization of the job of cook as requiring a "strong back and a weak mind," (Item 15, 82.0 percent), but close to half accepted it in relation to waitress (Item 14, 42.6 percent). Many agreed with the idea that the cook is the most important employee in the restaurant, (Item 18, 62.3 percent) and even more said they would enjoy preparing food to please others, (Item 9, 67.2 percent). The one disadvantage seen in this job by more than half of these pupils was working on holidays (Item 20, 63.9 percent). The responses to other possible disadvantages were less decisive: 44.3 percent would dislike to work in a hot kitchen, Item 11; 39.2 percent believed that there was too much pressure on a cook to get things done on time, Item 22; 47.5 percent disagreed with the statement that the pay is not good enough to support a family, but 32.8 percent were uncertain, Item 13. They rejected in large part the idea that cooks do not get to work in nice surroundings, (Item 8, 78.7 percent). Although relatively few (Item 17, 24.6 percent) agreed that commercial cooking is a good occupation for young people who want to get ahead, 60.7 percent would be willing to let their son or daughter be a cook, Item 12. As in the case of waitress, few had always wanted to be a cook, (Item 3, 13.1 percent).

Norms for the Three Inventories

The responses of the 189 girls and the 198 boys enrolled in food service courses were used to develop norms for the three inventories. The scores and corresponding percentiles are shown in Tables 17 and 18 in Appendix B.

A comparison was also made of the two groups, the sample of 775 pupils and the 387 pupils enrolled in food service courses, Table 5.

Table 4. Number and percentage of responses of a random sample of 61 female enrollees to items in the inventory, Attitude Toward Commercial Cooking

Items	Agree or strongly agree		Uncertain		Disagree or strongly disagree	
	N	%	N	%	N	%
1. As a cook, I feel I would be doing something worthwhile.	38	62.3	17	27.9	6	9.8
2. Cooking is drudgery.	8	13.1	10	16.4	43	70.5
3. I have always wanted to be a cook.	8	13.1	15	24.6	38	62.3
4. I wouldn't be a cook under any circumstances.	7	11.5	19	31.1	35	57.4
5. Cooking is monotonous work.	11	18.0	10	16.4	40	65.6
6. Cooking requires less education than most other occupations.	14	23.0	8	13.1	39	63.9
7. Cooks are skilled persons.	44	72.1	9	14.8	8	13.1
8. Cooks don't get to work in nice surroundings.	6	9.8	7	11.5	48	78.7
9. I would enjoy preparing food to please other people.	41	67.2	14	23.0	6	9.8
10. Being a cook would be an interesting job.	40	65.6	11	18.0	10	16.4
11. I wouldn't like working in a hot kitchen.	27	44.3	20	32.8	14	22.9
12. I would be willing to let my son or daughter be a cook.	37	60.7	18	29.5	6	9.8
13. A cook's pay isn't good enough to support a family.	12	19.7	20	32.8	29	47.5
14. Cooking would be a very desirable occupation.	23	37.7	26	42.6	12	19.7
15. You need a strong back and a weak mind to do this job.	2	3.3	9	14.7	50	82.0
16. Cooks don't get to meet many interesting people.	18	29.5	7	11.5	36	59.0

Table 4 con't.

Items	Agree or strongly agree N	Agree or strongly agree %	Uncertain N	Uncertain %	Disagree or strongly disagree N	Disagree or strongly disagree %
17. This is a good occupation for young people who want to get ahead.	15	24.6	23	37.7	23	37.7
18. A cook is the most important employee in the restaurant.	38	62.3	14	23.0	9	14.7
19. Cooking is too routine.	15	24.6	16	26.2	30	49.2
20. I would not like working on holidays when everyone else is relaxing.	39	63.9	15	24.6	7	11.5
21. Cooking is a satisfying job.	30	49.2	22	36.1	9	14.7
22. There is too much pressure on a cook to get things done on time.	24	39.3	20	32.8	17	27.9
23. Great skill is required to be a cook.	41	67.2	13	21.3	7	11.5

Table 5. Ranges of scores, means, and standard deviations of the three inventories for a sample of high school juniors and seniors and those enrolled in food service courses

		Ranges		Means		Standard deviations	
Inventory	Possible range	Pupils N=775	Enrollees N=387	Pupils	Enrollees	Pupils	Enrollees
Attitude Toward Being a Waiter	27-135	53-135	42-123	86.6	80.9	12.4	13.1
Attitude Toward Being a Waitress	25-125	34-106	44-132	70.1	84.6	12.0	15.4
Attitude Toward Commercial Cooking							
Males	23-113	56-83	51-114	69.6	83.3	4.3	10.3
Females	23-113	54-90	49-100	72.8	79.8	5.9	9.5

The means scores of pupils enrolled in food service courses in Iowa exceeded those for the sample of all Iowa pupils in the eleventh and twelfth grades except on the inventory, Attitude Toward Being a Waiter. This might be related to the small number of men in Iowa employed as waiters, and, hence, a tendency to reject this job for men, particularly by those whose aspirations are related to immediate wage-earning jobs. The range of scores is also greater on waiter inventory for the sample of all pupils than for those enrolled in food service courses.

The two largest differences between means are those of males on the Attitude Toward Commercial Cooking inventory and females on the Attitude Toward Being a Waitress. This may be related to the fact that many of the male students were enrolled in classes emphasizing food preparation and the females in classes emphasizing the job of waitress. Each of the standard deviations is larger for the enrollees, indicating that these pupils do not constitute a homogeneous group with reference to their attitudes.

Relation of Seven Factors to the Attitudes of Adults Toward Three Food Service Jobs

The scores of the 300 adults were examined with reference to seven factors.

School level

Correlations between the scores on the three attitude inventories and the number of years of schooling yielded no coefficients that achieved the .05 level of significance. See Tables 19 and 20 in Appendix B for the correlation matrix for women and for men.

Age

The ages of the adults were classified into three groups: less than 30, 30 to 50, and over 50. The analysis of variance revealed only two differences that are significant, both for women, Tables 21, 22, 23, and 24 in Appendix B. The scores on the waitress inventory increased linearly by age and the differences are significant beyond the .01 level. The scores of the women on the commercial cooking are also significant beyond the .01 level, but the middle age group had the lowest mean score of the three, Table 6. The scores of the men did not differ by age.

Table 6. Mean scores on the attitude inventories by age

Inventory	Less than 30	Age 30-50	Over 50
Attitude Toward Waiter	72.5	77.5	72.5
Attitude Toward Waitress	76.5	79.6	86.3
Attitude Toward Commercial Cook			
Males	77.5	78.4	78.3
Females	71.8	67.9	87.4

Income segment

The sample was drawn to represent two of the three income segments in Des Moines, Iowa: middle and low. It was recognized, however, that not all residents in the two types of segments would have middle or low incomes. The analysis failed to reveal any significant relationships between this factor and the inventory scores. There was, however, significant interaction between income and age in relation to the scores on Attitude toward Commercial Cooking for women. See Tables 21, 22, 23, and 24 in Appendix B.

Occupational level

An attempt was made to obtain a somewhat more refined estimate of socioeconomic level than that obtained by classifying the respondents by income segment. When the North-Hatt scale values of the occupations of the heads of the households were correlated with the inventory scores, none of the coefficients was significant; all are very low and some negative. Tables 19 and 20 in Appendix B.

Food service experience

The interviewees were requested to indicate whether they had ever had a job in a cafe or lunchroom. Almost half of the women, 99 of 200, but less than half of the men, 41 of 100, reported experiences of this type. When the means of the scores were compared they were found to be higher on each of the attitude inventories for those with food service experience; all differences are significant beyond the .01 level. Also interaction was found between income level and experience, significant beyond the .01 level, on Attitude Toward Waiter scores. Tables 21, 22, 23, and 24 in Appendix B.

In addition those who indicated some experience were asked whether they liked this kind of job. As expected all of the mean scores of those reacting favorably to the job are considerably higher for all three inventories than are those who said they did not like the work, Table 7. The respondents who had not had food service experience indicated whether they thought they would like this kind of work. The mean scores of those responding affirmatively are higher than those responding negatively except for the men's reactions to commercial cooking.

Table 7. Mean scores of respondents having had some or no experience in food service work and their reactions to this type of work

	Some		None	
Inventories	Favorable	Unfavorable	Favorable	Unfavorable
Waiter	86.6	70.5	91.2	65.4
Waitress	90.0	71.6	88.6	76.3
Commercial cook				
Males	87.0	80.7	74.7	78.3
Females	82.8	67.9	84.6	71.7

Technical training

To obtain an estimate of this factor the data sheet contained the following question: "Have you had any technical training such as nurse, beautician, barber, welder, etc.?" Only 35 of the men and 39 of the women replied yes. An examination of their mean scores revealed that those with technical training scored somewhat higher than the persons not having such training, but the differences are not significant at the .05 level.

CONCLUSIONS AND RECOMMENDATIONS

The three attitude inventories developed in this study are based on the responses of high school juniors and seniors and women employed as waitresses or cooks in Iowa. The assumption is made that these inventories would be useful in other states for guidance purposes. The norms established for Iowa pupils would, however, need to be validated in each state. To what extent the three would function as part of a battery to predict success in wage-earning courses and in employment should be determined by subsequent studies both in Iowa and other states.

When the inventories were administered to a sample of pupils in Iowa there was no evidence to support the hypotheses that there were meaningful differences between pupils in their attitudes toward the three jobs of waiter, waitress, or commercial cooking with reference to six variables: grade-level (eleventh and twelfth grades), residence, work experience, job aspiration, socio-economic status, and academic ability. Sex differences were found, however, with respect to the one inventory administered to both sexes, Attitude Toward Commercial Cooking; boys tended to score lower than girls. The scores of boys on the two inventories were related indicating a tendency for the two jobs of waiter and cook to form a "cluster." The converse was found for girls; hence, it is concluded that the jobs of waitress and cook do not "cluster." Since they correlated negatively to a significant degree, these two jobs for girls need to be considered separately when recruiting procedures are being planned.

An item analysis of the responses of a sample of pupils enrolled in food service courses revealed positive as well as negative views of some aspects of the jobs. Although no determination was made of the statistical significance of differences among the favorable, uncertain, or unfavorable responses, there are some clues for vocational guidance and for need to clarify the nature and values of the jobs. For example, statements relating to relations with people were among those obtaining the most frequent favorable responses from both boys and girls.

Many boys did not see the job of waiter as a man's job and reacted unfavorable to working on holidays and having broken work hours. The job of cook was in general viewed more favorable than that of waiter. These boys were more frequently uncertain about the statements on the waiter than on those in the commercial cooking inventory.

There is evidence that the girls in general did not have a high regard for the job of waitress in relation to the need for training; almost half agreed that anyone can be a waitress, that the job requires lees education than most occupations, and were equally divided on whether it required skill. They did, however, see the job as worthwhile and interesting and rejected in large numbers the statements relating to low morals of waitresses. They failed, generally, to see it as a dead-end job, yet many were either uncertain or disagreed that it was a good job for someone who wanted to get ahead.

Many of the statements concerning the jobs of waitress and commercial cooking elicited similar favorable responses, but they less frequently characterized cooking as drudgery and monotonous. Also cooking was viewed as requiring more skill and was seen as higher on the educational scale than the job of waitress.

The need to make an item analysis of the responses of pupils enrolled in food service courses early in the training period in a particular school program can be seen from the data presented in this study. Such an analysis combined with a comparison of the scores on the inventories with the norms developed should be helpful in planning learning experiences for groups of pupils who enroll or who are considering enrolling in food service courses.

When a sample of 200 women and 100 men in middle and low socio-economic segments of Des Moines, Iowa, were interviewed and administered the attitude inventories, it was found that five of the seven factors studied were not significantly related to the scores on the inventories: school level, occupation of the head of the household, income segment, socio-economic level, and technical training. Age was a significant factor for female respondents; the mean scores on the waitress inventory increased with age. Those on the commercial cooking inventory were lowest for the middle-aged group, 30-50 years, and highest for the oldest group, over 50 years. The adults who had had some food service experience had significantly higher mean scores on all inventories than those without such experience. These mean scores were also related to an affirmative response to these questions: "Did you like this kind of work?" and "Do you think you would like this kind of work?" This suggests that work experience combined with class activities would tend to result in more favorable attitudes toward these jobs than class activities alone. Older adults, particularly those with experience, had the highest mean scores and, hence, might be more likely to influence others favorably with regard to the three jobs under study. Younger adults would need more motivation to consider training in these areas.

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SECTION III

EXPERIMENT IN TRAINING FOOD SERVICE PERSONNEL

SUMMARY

An experiment was designed in 1967 by the Institution Management Department, Iowa State University, to determine the effects of a training program on food service employees and the relationship of certain factors to the effects of training. Three short courses, sponsored by the Institution Management Department and the School Lunch Section, Iowa State Department of Public Instruction, were the basis for the training experiment; each course was of five days duration.

Three groups of school lunch employees were selected for the study: a one-year experimental group of 43 persons, a three-year experimental group of 35, and a control group of 43. Three criteria were established for selection of the participants: length of experience in food service, seven years and under and eight years and over; level of education, grade 11 or less and grade 12 or more; and job responsibility, cook and manager.

The participants in the one-year experimental group attended all three short courses in the summer of 1967; the three-year experimental group had previously attended two short courses and attended the third that summer. The control group did not attend any of the short courses.

The effectiveness of the training program was evaluated at three levels: by pre-test and post-test measurements; by objective measurements of performance on the job; and by subjective measurements.

To measure the learning resulting from the training, subject-matter tests were constructed in 11 subject-matter areas: food preparation, supervision, menu making, Type-A lunch, record keeping, nutrition, purchasing, sanitation, school-community relations, work methods, and philosophy of school lunch. These 11 subject-matter evaluation instruments and two attitude tests were administered to the one-year experimental and control groups in the form of paper-and-pencil tests before training. After training, all three groups, one-year experimental, three-year experimental, and control were administered the subject-matter and attitude tests as well as aptitude tests selected from the General Aptitude Test Battery (GATB) (32).

The on-the-job performance of a sample of participants in the 1967 training experiment was measured objectively eight months after training to determine if a relationship existed between what was learned in training and practices on the job. The sample of trainees consisted of 24 school lunch managers from the one-year experimental and control groups who were selected on the basis of post-test scores. An instrument was constructed to determine on-the-job behavior by such techniques as direct observation, interview, and inspection by two observers. The basic learnings of the training program (that were also reflected in the subject-matter tests administered as a pre- and post-test) became the basis for the performance measures.

Subjective ratings of the trainees' performance on the job and the trainees' perception of the training were analyzed to obtain further insight into the effects of training. Of the three groups involved in the training experiment, the subjective evaluations were concerned with the one-year experimental and control groups. Ratings were obtained by written questionnaire or interview from the school administrators and subordinates of the trainees and from the trainees themselves.

Major outcomes of the training experiment are given below. In instances involving the subject-matter tests, the conclusions drawn are based on the seven tests that met the reliability criterion.

Pre-test and post-test measurements

- Participants who received training gained significantly from pre-test to post-test in all seven subject-matter areas.
- Training in the subject-matter areas of menu making and Type-A lunch was especially beneficial to persons with little experience in food service.
- Prior to training, employees who had completed at least the twelfth grade evidenced significantly more job knowledge in four subject-matter areas than those who had less education. In the remaining three areas, the mean pre-test scores for the high education group were higher, but not significantly so.
- Prior to training, personnel employed in supervisory roles as managers possessed significantly more job knowledge in all seven subject-matter areas than those working in nonsupervisory roles as cooks.
- Prior to training, persons with higher scores for the aptitudes of intelligence, verbal, clerical perception, numerical, and spatial had acquired more information about their jobs during their work and other experiences than persons with lower aptitude scores.
- Prior to training, individuals who met the United States Employment Service (U.S.E.S.) norms established for food service workers for the occupationally significant aptitudes of intelligence, verbal, and clerical perceptions had more job knowledge than those who did not meet the norms.
- Using the U.S.E.S. norms, high and low scorers on the post-test subject-matter measurements were significantly different; more persons who met the norms were in the high scoring group.

Objective measurements of performance on the job

- The on-the-job performance of school lunch managers who had received training was superior in the subject-matter area of

Type-A lunch to the on-the-job performance of those who had not had training. Performance in the other subject-matter areas was not significantly different.

Subjective measurements

- Behavioral changes judged by administrators, subordinates, and trainees to be attributable to the training were:

  Observes various techniques that result in more appealing menus
  Uses improved work methods
  Is better able to supervise workers
  Applies various principles of food preparation learned
  Exhibits improved attitudes
  Effects changes in menu to better meet requirement of Type-A lunch
  Makes better use of government commodities
  Shows deeper concern about controlling food costs
  Shows more willingness to exert leadership
  Implements better sanitation practices
  Keeps better records.

- A positive relationship existed between the trainees' perceptions of learning after training and modification of behavior on the job.

- A positive relationship existed between perceptions of training needs before training, perceptions of learning after training, and modification of behavior on the job in the subject-matter areas of food preparation and menu making.

The training had a definite impact on the trainees involved. The data substantiated that job knowledge increased from the training. The relatively high percentage of trainees who were identified through subjective measurements to have made some modification in on-the-job performance, along with the concrete illustrations of behavioral change cited by the administrators, subordinates, and the trainees themselves, lent support to the proposition that the training program produced change in the behavior of the trainees. Although the results from the objective measurements of on-the-job performance were not significant except in one instance, in general other results demonstrated the potential worth of the educational program for learning facts and generalizations and applying them.

In the pre-test and post-test measurements, the trainees gained significantly over the control group in the subject-matter areas of food preparation, supervision, menu making, Type-A lunch, record keeping, nutrition, purchasing, and school-community relations. No significant differences were obtained for the areas of sanitation, work methods, and philosophy of school lunch; however, the evaluation instruments for supervision, sanitation, work methods, and philosophy of school lunch failed to meet the reliability criterion. The significant differences found in the means of the sanitation performance scale completed by the administrators before and after training, the high frequencies of behavioral change cited by all raters in work methods and supervision, and the high frequencies of perception of learning cited for philosophy of school lunch, work methods, and sanitation suggested that the trainees did learn in these subject-matter areas and that the nonsignificant differences between the pre-test and post-test scores may be attributable to the unreliability of the tests.

Length of experience in food service was not found to be associated with job knowledge prior to training as length of experience and job knowledge were defined in the experiment. For persons with little experience in food service, training was found to be especially beneficial in the subject-matter areas of menu making and Type-A lunch.

Level of education was found to be related more positively to learning from experience previous to training than to the formally structured training program. Although employees who had completed the twelfth grade possessed significantly more job knowledge in five subject-matter areas prior to training, level of education was not significantly related to gain in job knowledge from the training program. The relationship of education to pre-test scores and gain scores has particular pertinence, for it tends to support the desirability of preplanned systematic training programs, especially for employees of lower educational background. The question remains, however, as to whether somewhat more advanced program content would have resulted in greater gain for the high education group.

The nature of the participants' responsibilities on the job was related to job knowledge prior to the training program. Personnel employed in supervisory roles as managers possessed significantly more job knowledge than those working in nonsupervisory roles as cooks. The desirability of offering separate training sessions for supervisory and nonsupervisory personnel for selected subject-matter areas was evident.

Prior to training, persons with higher aptitude scores had learned more about their jobs during their work and other experiences than those with lower aptitude scores. In addition, the U.S.E.S. norms for food service workers for the occupationally significant aptitudes of intelligence, verbal, and clerical perception, were found to discriminate between high and low scorers on the pre-test. The norms could serve as useful tools for selection of school food service job applicants. By employing only personnel that meet or exceed critical scores set for the occupationally significant aptitudes, the employer would be more likely to obtain potentially successful employees if job knowledge is an indication of success.

No relationship was found between aptitude scores and gain in job knowledge as a result of training. In addition, although it was found that the U.S.E.S. norms discriminated on post-test scores, there was no difference in achievement or gain from training of employees who met and did not meet the established norms. This finding appears to have significance in selection of persons for training. It infers that persons selected from a cross section of the population would derive as many benefits from training of the type provided as those with high aptitudes.

A positive relationship existed between the learnings perceived by the trainees and modification of behavior on the job. In other words, areas in which the trainees were judged to have improved their performance corresponded to the areas for which there was an awareness of learning. This was particularly true in the subject-matter area of Type-A lunch. For the subject-matter areas of food preparation and menu making, in addition to agreement between perceptions of learnings and modification of behavior on the job, training needs were perceived prior to training.

The use of two instruments[1] to measure attitude toward the two food service jobs of waitress and commercial cook did not disclose significant changes in attitudes as a result of training. It was recognized, however, that this type of attitude change was not likely to occur during a time span of 45 days.

According to the subjective measurements obtained by ratings of the trainees' administrators eight months after training, a positive attitude change was believed to have occurred in the trainees toward their position in school food service. This finding, coupled with the fact that a large number of participants referred to the subject-matter area of philosophy of school lunch as one of the most helpful areas of training, led to the conclusion that the training resulted in better understanding by the trainee of his relationship to the school lunch program, and in the development of competence that made the trainee more self-reliant and responsible.

The on-the-job performance of school lunch managers who received training was superior to those who were not trained in only one subject-matter area, Type-A lunch. It may not be said that the training did not make a difference in on-the-job performance in the remaining subject-matter areas since it does not follow that failure to reject a null hypothesis is indicative of acceptance. Possible reasons why there were not significant changes in on-the-job behavior in the other areas may be attributed to the training program itself, lack of retention or insufficient motivation on the part of the trainees, the design of the experiment, and environmental variables over which the managers had no control.

Although it was ideally desirable to link on-the-job performance to training since the objective of training is a certain type of behavior on the job, only in rare instances have training programs or techniques been experimentally evaluated in terms of job proficiency achieved by trained workers. When such studies were made, experimenters had great difficulty with obtaining adequate measures of performance.

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[1] These instruments were developed by Arcus (2).

Further studies related to the training experiment have been initiated. The objective of one study is to test retention of the one-year and three-year experimental groups after a two-year period. The objective of another study is to analyze the items contained in the pre-test and post-test subject-matter evaluation instruments. It is hoped that the item analysis will give further insight into the effects of training and provide a basis for improving evaluation techniques. From insights gained during the administration of the training program in 1967, the desirability of comparing the relative merits of group training and a self-instructional program of training was evident. By basing a self-instructional program of training on the objectives and basic learnings of the group training, the effects of the two types of training could be compared. A study was undertaken to develop a self-instructional program of training.

There have been few organized attempts made to determine the validity of formal training programs by evaluation of training at three different levels, pre-test and post-test measurements, objective measurements of performance on the job, and subjective measurements. The conclusion was drawn on the basis of the present training experiment that subjective measurements were particularly useful when employed in conjunction with pre-test and post-test measurements and objective measurements of performance on the job.

INTRODUCTION

There is a serious need for qualified employees in the food service industry. With public demand for food services increasing rapidly, selection and training of food service personnel are vitally important. Well trained food service employees are needed to maintain desired standards and to contribute to economically feasible operation.

As technology and automation replace human energy, large corps of workers are moving from the goods-producing industry to the service-producing industry. Many of these workers are entering and continuing to work in the food service industry with little or no previous training or experience in food service.

To attain the objective of determining the effects of training and certain factors related to the effectiveness of training, an experiment was initiated in the summer of 1967 by the Institution Management Department, with the cooperation of the Home Economics Education Department, Statistical Laboratory, and Department of Statistics, Iowa State University.

Three school lunch short courses, of five days duration each, were used as a basis for the training experiment. The short courses were sponsored by the Institution Management Department, Iowa State University, and the School Lunch Section, Iowa State Department of Public Instruction.

Three levels at which the effectiveness of a training program can be evaluated include pre-test and post-test measurements, objective measurements of performance on the job, and subjective measurements. At the classroom or training room level, paper-and-pencil tests are administered to the trainees in pre-test and post-test sessions. A statistically significant increase in score is usually taken as an indication that the subject matter has been learned; however, evaluation at this level is not always indicative of whether the training results in better performance on the job (13, 14).

Since the end result of training is a certain type of behavior on the job, the other levels at which efforts to train can be evaluated, objective measurements of performance on the job, and subjective measurements, are often considered to be the most meaningful (18, 19). In objective measurements of individual performance on the job, a trained observer utilizes quantifiable indices to measure the change in behavior which the training program is designed to accomplish.

With subjective measurements, techniques such as self-reports and ratings by superiors and subordinates are employed to appraise the effects of training. Several authors placed subjective measures in the perspective of being supplemental to objective measurement techniques (13, 20). Wilson (36) indicated, however, that subjective measures will seldom show a high correlation to objective measures even though both measures are considered to be reliable.

As part of the 1967 training experiment, subject-matter evaluation instruments were constructed to measure job knowledge. These instruments were administered in the form of paper-and-pencil tests as a pre-test and post-test to the participants who received training and to a control group. On-the-job performance of a sample of trainees from the training experiment was measured to determine if a relationship existed between what was learned in training and practices on the job. In addition, subjective ratings were analyzed to determine change in on-the-job performance and to assess the trainees' perception of training.

The objectives for each of these evaluations were as follows:

Pre-test and post-test measurements

1. Determine the relationship between job knowledge[1] prior to training and criteria used in selection of trainees, namely, length of experience in food service, level of education, and job responsibility
2. Determine the effects of training for food service workers
3. Determine the relationship between the effects of training and criteria used in selection of trainees
4. Compare achievement for employees who received concentrated training and those who received spaced training
5. Compare the relationship between aptitudes and job knowledge before and after training
6. Determine the relationship between the numerical and intelligence aptitudes and ability to respond to mathematical and nonmathematical questions
7. Compare the relationship between aptitude norms and job knowledge
8. Determine the effect of training on attitudes.

Objective measurements of performance on the job

1. Compare on-the-job performance of trained and control group
2. Relate on-the-job performance to post-test scores
3. Determine the extent to which the trained group translated job knowledge, as reflected by specific test items, into action

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[1] The trainees' knowledge of fact and ability to know and apply generalizations taught in the short courses is referred to as job knowledge.

4. Relate on-the-job performance to aptitudes

5. Compare retention of learning of trained and control groups in subject-matter area of nutrition.

Subjective measurements

1. Compare the administrators' performance ratings of supervisory and nonsupervisory personnel before training and eight months after training

2. Obtain evidence of change in the performance of school lunch supervisory and nonsupervisory employees which their administrators attributed to participation in the training program

3. Obtain evidence of change in the performance of the school lunch managers which their subordinates attributed to participation in the training program

4. Determine the relationship of the administrators' and the subordinates' ratings of change in the performance of the trainees

5. Determine trainees' perceptions of change in the performance of their jobs

6. Compare trainees' perceptions of training needs before, immediately after, and eight months after training

7. Compare trainees' perceptions of learning immediately after and eight months after training

8. Determine the relationship of self-reported gain and measured gain in job knowledge resulting from training.

From insights gained during the experiment, the desirability of comparing the relative merits of group training and a self-instructional program of training was evident. By basing a self-instructional program of training on the objectives and basic learnings of the group training administered in 1967, the effects of the two types of training could be compared. A self-instructional program of training was developed; it will be used in a subsequent training experiment.

METHODS

Three groups of school lunch personnel were selected to participate in the study: a one-year experimental group, a three-year experimental group, and a control group. The one-year group attended three one-week short courses within a period of five weeks during the summer of 1967; the three-year group had attended two short courses in previous years and the third short course during the training experiment; the control group did not attend any of the short courses. The one-year experimental and control groups were comprised of 43 persons each; the three-year group of 35 persons.

Selection of the participants for the study was based on these criteria: length of experience in food service, seven years and under, and eight years and over; level of education, grade 11 or less, and grade 12 or more; and job responsibility, cook, and manager. The design of the experiment and the number of persons in each cell are shown in Figure 1.

In order to avoid repetition and present the reports as briefly as possible, some details of the methods are reported with the Findings and Analysis. Evaluation instruments and forms used in the training experiment are on file in the Institution Management Department, Iowa State University, since these materials will be used in further research.

Pre-test and Post-test Measurements

The objectives for the short courses and the basic learnings were identified. Eleven broad subject-matter areas to be taught in the short courses were: food preparation, supervision, menu making, Type-A lunch, record keeping, nutrition, purchasing, sanitation, school-community relations, work methods, and philosophy of school lunch.

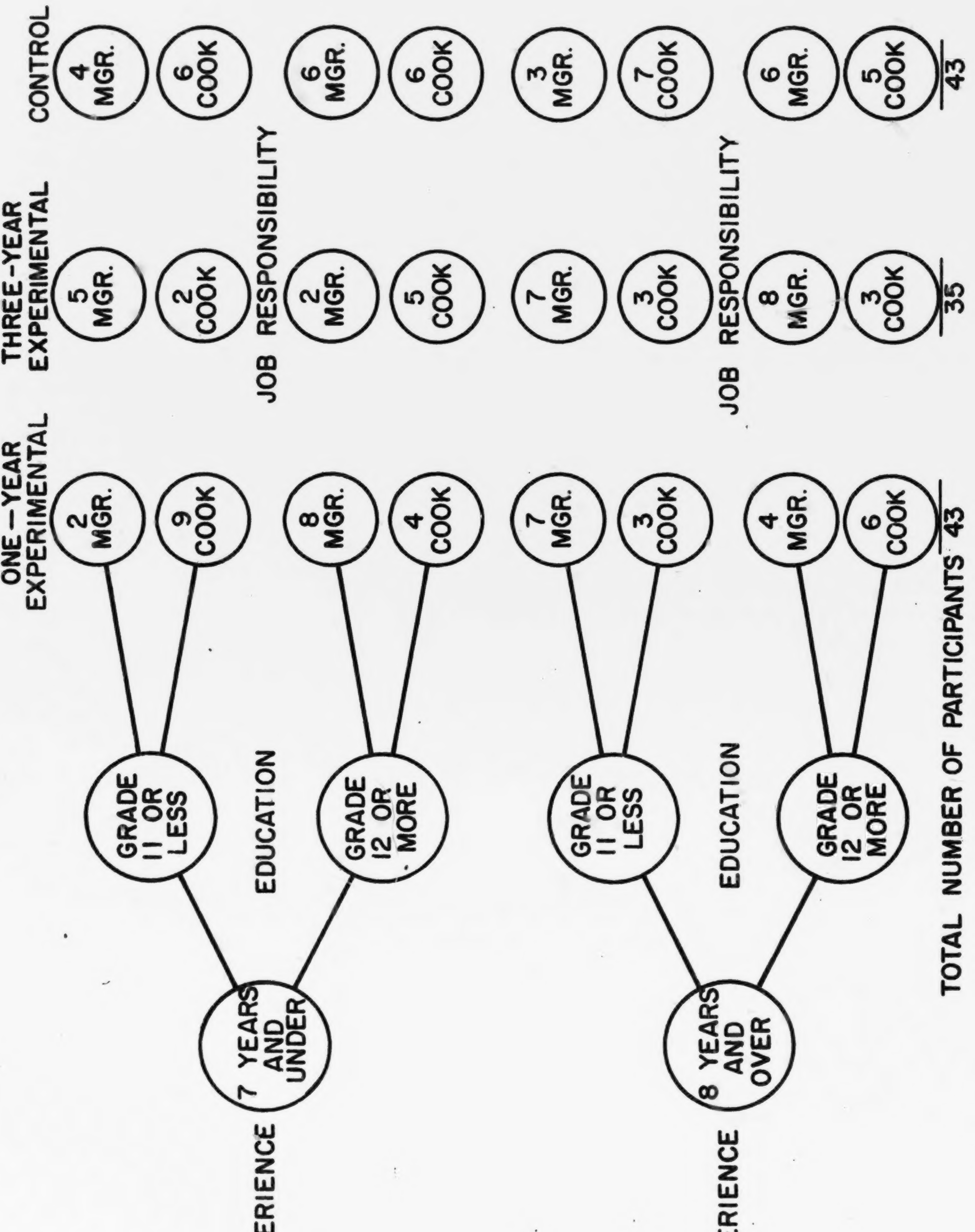
Evaluation instruments based on the basic learnings were constructed for each subject-matter area. The test items were of several types: true-false, multiple-choice, matching, and list-type essay. The instruments were pretested and revised several times before being used in the experiment.

Aptitude tests were selected from the General Aptitude Test Battery (GATB) (32) for determining the aptitudes of intelligence, verbal, clerical perception, numerical, and spatial. The GATB was chosen for the following reasons:

1. Specific GATB norms for food service occupations had been published by the United States Employment Service and could be used for comparison (34)

2. The Dictionary of Occupation Titles (31) noted that the aptitudes of intelligence, verbal, and clerical perception, as measured by the GATB, are occupationally significant for the positions of food service supervisor and head cook in a school cafeteria

Figure 1. Design of training experiment showing the number of participants in the one-year experimental, three-year experimental, and control groups according to the selection criteria: length of experience in food service, level of education, and job responsibility


EXPERIENCE
7 YEARS AND UNDER
8 YEARS AND OVER
EDUCATION
GRADE 11 OR LESS
GRADE 12 OR MORE
JOB RESPONSIBILITY
ONE-YEAR EXPERIMENTAL
THREE-YEAR EXPERIMENTAL
CONTROL
2 MGR.
9 COOK
8 MGR.
4 COOK
7 MGR.
3 COOK
4 MGR.
6 COOK
5 MGR.
2 COOK
2 MGR.
5 COOK
7 MGR.
3 COOK
8 MGR.
3 COOK
4 MGR.
6 COOK
6 MGR.
6 COOK
3 MGR.
7 COOK
6 MGR.
5 COOK
TOTAL NUMBER OF PARTICIPANTS
43
35
43

3. The GATB is widely used by State Employment Service Offices in their work with job applicants; verification of established norms for food service personnel would be of considerable value to the Employment Service and employers in the food service industry.

The subject-matter tests and two of the attitude inventories (cook and waitress) developed by Arcus (2) were administered previous to and after the training period to the one-year experimental and control groups. A time interval of 45 days elapsed between the two administrations. The aptitude tests were administered to all three groups, and the three-year experimental responded to the subject-matter tests and attitude tests as the post-test battery.

Three information forms were completed by the participants to verify previous information received in preliminary correspondence and to obtain further information. Information forms I and II were administered to the experimental and control groups during the pre-test session, and information form III was administered to all three groups during the post-test session.

Since it was possible that different test administrators might influence the participants, one member of the research team was responsible for giving all verbal direction for the subject-matter tests. Directions for responding to various types of test items were standardized for the three groups. Although the amount of time needed to respond to each test had been estimated during trials, the times were adjusted to meet the needs of the first group taking the pre-test, and the same amount of time was allowed for the other two groups.

The procedure developed and standardized by the United States Employment Service for administration of the GATB, Form B-1002B, was used (33). Five subtests of the GATB, parts 1, 2, 3, 4, and 6, were administered by a psychometrist from the Iowa State Employment Service.

Scoring keys for the list-type essay items in the subject-matter instruments consisted of a listing of all acceptable responses. In order that all possible correct responses be included in these scoring keys, pertinent source material and pre-test responses were reviewed. The responses from all administrations of the subject-matter instruments were scored at the same time to ensure greater consistency.

Since a total score across subject areas was needed, it was necessary to weight the score for each subject-matter area test. The weighting factors were based on the relative amount of time allocated to each subject area during the three short courses:

Subject-matter area	Percent of time
Food preparation	32.8
Supervision	13.1
Menu making	10.9
Type-A lunch	10.8
Record keeping	9.0
Nutrition	6.6
Purchasing	4.9
Sanitation	4.4
School-community relations	4.0
Work methods	2.1
Philosophy of school lunch	1.4

The aptitude test were scored at the state administrative office of the Iowa State Employment Service.

Objective Measurements of Performance On the Job

To secure evidence that the training program had influenced the behaviors of the trainees, data were obtained relative to performance on the job after training. In designing the measures to be used, the basic learnings of the training program were analyzed. The problem was to identify specific aspects or elements of these learnings that could be evidenced in the work situation in order to relate behavior on the job to job knowledge as in the subject-matter test scores.

The performance measures consisted of a checklist of specific behavior elements. Attempt was made to have as adequate a representation as possible of the skills required in the job that were judged to be most important. Items were chosen for which behavior could be measured on an objective basis and quantified. The measures were constructed to make them as free as possible from the opinions of the observers.

Attempt was made to make some performance measurement in the 11 subject-matter areas that represented the basic learnings presented at the short courses. This was necessary in order that between subject area comparisons could be made. Each performance item, therefore, was classified according to one of the 11 subject-matter areas.

The performance measures were designed to obtain data by such techniques as direct observation, interview, and inspection. Measures obtained by inspection could be obtained in the regular job context without any special structuring of the job for measurement purposes.

Two observers were chosen to administer the performance instrument, the researcher (Observer I) and a staff member from the School Lunch Secion, Iowa State Department of Public Instruction (Observer II). Both were considered to be competent in the field of institution management and qualified, therefore, to interpret the measures.

The two observers administered the performance measures in two different schools and independently in the same school on a trial basis. Items that were considered unclear, ambiguous, lacking in specificity, or too specific to apply to all school lunch programs were changed. Besides the performance measures, the final instrument also contained part of the subject-matter evaluation instrument in nutrition to be given as a retest, forms for subjective evaluations by subordinates, and a form for reporting supplemental information.

The latter trial, when the two observers administered the performance measures independently in the same school, provided data for consistency of assessments. The observers' scores for each subject-matter area were converted to percentages and correlated. A coefficient of .82 was obtained which was significant beyond the one percent level.

Twenty-four school lunch managers who participated in the experiment constituted the sample. Twelve managers from the one-year experimental group and 12 from the control group were selected on the basis of the post-test total scores of the subject-matter evaluation instruments. The six highest scorers and the six lowest scorers from both groups were chosen, resulting in four groups: high- and low-scoring trained groups, and high- and low-scoring control groups. Hereafter, the 12 managers chosen from the former will be referred to as the trained group, and the 12 from the latter will retain the designation of control group. Although the original plan was for each observer to visit 12 schools, circumstances altered this plan. The number of schools visited by each observer is given in Table 1.

Table 1. Number of schools visited by each observer during the objective measurements of on-the-job performance

	Group			
	Trained		Control	
Observer	High scorer	Low scorer	High scorer	Low scorer
I	3	4	4	3
II	3	2	2	3

The performance measures were administered in the 24 schools by the two observers during April and May, 1968, approximately nine to ten months after the training program. A full work day was spent in each school.

The observers were told in advance whether the school lunch managers had received training or were part of the control group, but the observers had no knowledge of the level of score achieved by the managers on the post-test measurements. The manager of each program was telephoned the afternoon of the day preceding the visit. It was hoped that obtaining permission for the visit late in the day would prevent changes in the usual operation the day of the visit.

Each observer spent time in making observations and recording observations. The paper-and-pencil retest and the subjective evaluations of two subordinates were obtained at the end of the work day. The form for reporting supplemental information was completed immediately after departure from each school.

A scoring key was developed for the performance measures. It was possible to observe specific behaviors in the schools for which the underlying principles had been tested in the paper-and-pencil tests. There were 13 such items. These items were referred to as direct-comparison performance measures. The scoring key used for these items was identical to that developed for the paper-and-pencil tests.

Subjective Measurements

Ratings by administrators, subordinates, and trainees were the subjective estimates used to determine change in on-the-job performance and to assess the trainees' perception of training. The term rating was used in the context of the definition by Wilson (36): the cumulative impression or evaluation made by an observer and recorded at a time later than the observation. The terms opinions, beliefs, and judgments were used to also denote cumulative impressions or evaluations.

Of the three groups involved in the experiment, the subjective ratings were obtained for the one-year experimental and control groups. Eight months after training, two persons in the one-year experimental group and one person in the control group were no longer employed in school lunch programs, leaving 41 in the one-year experimental and 42 in the control groups.

The rating instruments called for two types of response: check (structured), and open-end (unstructured). The latter was designed to provide the respondent with an opportunity to report his cumulative impressions.

Two techniques were used to obtain the ratings: written questionnaire and interview. Written questionnaire was used to obtain ratings from the administrators and trainees, and interview to obtain ratings from subordinates. Some information was obtained by mailed questionnaire from the administrators before training and from the administrators and trainees eight months after training; other information was obtained from the trainees at the time of the pre-test and post-test measurements.

The responses obtained by checking were summarized by frequencies. To organize open-end responses into a system enabling interpretation, content analysis was used (5, 6, 12, 25).

The technique of content analysis entailed identifying categories by unit statements and classifying the replies to the various statements asked of the administrators, subordinates, and trainees (See Findings and Analysis). Care was taken to make the statements as precise and as free from overlap as possible. Subcategories were not used. Where specific examples served to identify the categories, the examples were listed under each category. Five category keys were established.

Three persons involved in coding were acquainted with the goals of the training program and had an understanding of school food service. It was assumed that there was little need for interpretation and definition of food service terms.

After preliminary trials of applying the category keys, the coding was done independently by two coders. The coders reduced the responses to unit perceptions and then classified his perception of each part of the responses according to one of the established categories. In cases of disagreement in coding, the third member coded the item. If there was still disagreement among at least two of the coders, the three coders conferred and a compromise was reached.

Intercoder reliability between the two coders for the five category keys was computed by the following formula given by North (22):

$$\text{Coefficient of agreement} = \frac{2\ (C_{1,\ 2})}{C_1 + C_2}$$

The number of category assignments on which the coders agreed was divided by the sum of all category assignments by the coders.

The coefficients of agreement were as follows:

Category key	Coefficient of agreement
I	.75
II	.73
III	.85
IV	.70
V	.62

For category keys, I, II, III, and IV, the coefficients indicated that on the average, 73 percent of the time the two assigned values identically on the original coding. Although an acceptable minimal value was not found in the literature, it was thought that a coefficient of .70 or higher was indicative of relatively high agreement between the coders. Key I constituted 63 percent of the total number of items coded. Key V, where a lower coefficient of agreement was found, was used for only 9 percent of the items. Berelson (5) indicated that, although high reliabilities in analysis of content are not guarantors of reliability, they are encouraging indicators.

A procedure outlined by Buchanan (8) was used to determine the relationship of the administrators' and subordinates' ratings of change attributable to training. Two social scientists who were not connected with the training program were asked to examine independently the responses of the administrators and subordinates by placing the trainee in one of three categories: 1) some change had occurred in the trainee's job performance; 2) the evidence was inconclusive; or 3) no change had taken place. The placement of each trainee was dependent upon agreement between the two social scientists. In case of disagreement, the trainee was placed in the less desirable of two categories.

FINDINGS AND ANALYSIS

Three school lunch short courses offered to school lunch personnel at Iowa State University were used as a basis for the training experiment. Three groups of school lunch employees were involved in the training experiment: one-year experimental, three-year experimental, and control. The one-year experimental group attended all three short courses in the summer of 1967; the three-year group had attended two short corses in previous years and attended the third during the experiment; the control group had not attended any of the short courses.

The effectiveness of the training program was evaluated at three levels: by pre-test and post-test measurements; by objective measurements of performance on the job; and by subjective measurements.

Discussion of results will be confined to values that meet or exceed the .05 level of significance. Significance beyond the .01 level of confidence will be denoted by two asterisks (**) and beyond the .05 level by one asterisk (*).

Pre-test and Post-test Measurements (10, 16, 21)

A set of instruments was administered before and after the training experiment to the one-year experimental and control groups. The instruments were administered only as a post-test to the three-year experimental group.

The hypotheses tested were concerned with the effects of training and the relationship of certain variables to these effects. Analyses of variance of the multiple-classification type and multiple-classification-with-repeated-measurements type were made where it was necessary to analyze the total variation of the data by the components, length of experience in food service, level of education, and job responsibility.

Since there were unequal numbers in the cells formed by the classification variables, the form of analysis used was an analysis of variance on unweighted cell means. Discussion of results in the multiple-classification-with-repeated-measurements type analysis of variance will be confined to the effect, Test within person and its associated interactions.

Adequacy of subject-matter tests

Evaluation of the training program was dependent on the adequacy of the subject matter evaluation instruments; three criteria were used: usability, validity, and reliability. The tests were considered to possess usability because they were easy to read and understand, easy to administer, and most items were easy to score objectively. Content validity was assumed since the achievement tests were built upon generalizations taught in the three school lunch short courses.

The test-retest method was used to estimate reliability. Coefficients of stability were obtained by correlating pre-test and post-test scores of the control group. A coefficient value of .75 was accepted as a minimum (14, 23). Coefficients for across subject-matter areas and for the subject-matter areas of food preparation, menu making, Type-A lunch, record keeping, nutrition, purchasing, and school-community relations exceeded the .75 level. Those for the subject-matter areas of supervision, sanitation, work methods, and philosophy of school lunch fell below the .75 level. With the exception of the test for sanitation, the inadequacy of the tests was attributed to an inadequate sampling of test items; the four tests were concerned with an estimated 21 percent of the short course content. Consequently, acceptable reliability may be expected from one testing to another for the total test as well as for seven of the 11 subject-matter areas.

Aptitude comparison of groups

To determine whether the three groups, one-year, three-year, and control were like groups previous to training in regard to aptitudes, analyses were run comparing the aptitude mean scores of the one-year group with those of the three-year and control groups. The t-tests revealed no significant differences among the three groups with reference to the five aptitudes studied.

Job knowledge before training

To determine whether there were significant differences in job knowledge as measured by the subject-matter tests for the one-year experimental and control groups prior to training, multiple classification analyses of variance were performed on the pre-test scores across subject-matter areas and for each of the various subject-matter areas for the one-year experimental and control groups. The selection criteria were Group, Experience, Education, and Job. Significant main effects from the analyses of variance on pre-test scores are summarized in Table 2. None of the interactions among the criteria attained significance.

The main effect of Group, which resulted from a comparison of the pre-training job knowledge of the one-year experimental and control groups, did not vary significantly across subject-matter areas or for individual subject-matter areas except that a difference significant beyond the five percent level was obtained for school-community relations. At the time of the pre-test, the one-year experimental and control groups were like groups concerning job knowledge for all subject-matter areas except school-community relations.

The Experience selection criterion was not significant across subject-matter areas or for the various subject-matter areas tested. Employees with longer work experience did not possess significantly more job knowledge prior to training than employees with less work experience.

The Education selection criterion was significant beyond the five

Table 2. Summary of significant main effects from analyses of variance on pre-test scores

	Selection criterion			
Subject-matter area	Group	Experience	Education	Job
Across subject-matter areas			*	**
Food preparation				*
Supervision[a]				
Menu making			*	*
Type-A lunch				**
Record keeping				*
Nutrition			**	**
Purchasing			*	**
Sanitation[a]				
School-community relations	*		*	*
Work methods[a]				
Philosophy of school lunch[a]			*	

**Significant beyond the .01 level.
*Significant beyond the .05 level.
[a] Reliability of evaluation instruments below .75.

percent level across subject-matter areas and for four subject-matter areas, menu making, purchasing, school-community relations, and philosophy of school lunch. A significant difference beyond the one percent level was obtained for the subject-matter area of nutrition. In five of the subject-matter areas, employees who had grade 12 or more education possessed more job knowledge prior to training than employees who had less formal education. For the remaining six subject-matter areas, there was no significant difference in job knowledge prior to training.

The Job selection criterion was significant beyond the one percent level across subject-matter areas and for the areas of Type-A lunch, nutrition, and purchasing. The areas of food preparation, menu making, record keeping, and school community relations were significant beyond the five percent level. In all but four subject-matter areas, employees working in supervisory roles as managers possessed significantly more job knowledge prior to training than employees working in nonsupervisory roles as cooks.

Gain in job knowledge

To determine gain in job knowledge, multiple classification analyses of variance with repeated measurements were performed using pre-test and post-test scores across subject-matter areas and for the specific areas for the one year experimental and control groups. The difference between pre-test and post-test subclass means was referred to as gain. Interactions involving Test in the analyses of variance, included: Group by Test, Group by Experience by Test, Group by Education by Test, Group by Job by Test. Findings from the analyses of variance on gain in job knowledge for the one-year experimental and control groups are summarized in Table 3.

The Group by Test interaction was significant beyond the one percent level across subject-matter areas and for these specific areas: food preparation, supervision, menu making, Type-A lunch, record keeping, nutrition, purchasing, and school-community relations, Table 3. In these eight areas, the one-year experimental group gained significantly from training while the control group showed little or no gain from pre-test to post-test. The null hypothesis was rejected: the in-service training program resulted in gain in job knowledge. However, the fact that there were significant interactions with other selection criteria across test and for two of the subject-matter areas must be taken into consideration.

The three-way interactions, Group by Experience by Test, Group by Education by Test, and Group by Job by Test, measured the relationship between gain in job knowledge from training and the three selection criteria: length of experience in food service, level of education, and job responsibility. The significant interactions indicated the extent to which there was lack of uniformity of performance between the two classifications of each selection criterion within the one-year experimental and control groups from pre-test to post-test.

Table 3. Summary of significant interactions from analyses of variance on pre-test and post-test scores

Subject-matter area	Interaction of selection criteria with test			
	Group	Group by experience	Group by education	Group by by job
Across subject-matter areas	**	*		
Food preparation	**			
Supervision[a]	**			
Menu making	**	**		*
Type-A lunch	**	*		
Record keeping	**			
Nutrition	**			
Purchasing	**			
Sanitation[a]				
School-community relations	**			
Work methods[a]				
Philosophy of school lunch[a]		*		

**Significant beyond the .01 level.

*Significant beyond the .05 level.

[a] Reliability of evaluation instruments below .75.

The Group by Experience by Test interaction was significant beyond the five percent level for across subject-matter areas and for the subject-matter areas of Type-A lunch and philosophy of school lunch, Table 3. For the area of menu making the interaction was significant beyond the one percent level. Across subject-matter areas and in three subject-matter areas, menu making, Type-A lunch, and philosophy of school lunch, the high experience classification of the control group made slight gains from pre-test to post-test, but the scores of the low experience classification of the control group remained almost the same. This was not the case for the persons who participated in the training program. Trainees in both experience classifications of the one-year experimental group made gains during the training, but it was found that the low experience trainees gained slightly more from pre-test to post-test than the high experience trainees. This suggested that training, particularly in the subject-matter areas of menu making, Type-A lunch, and philosophy of school lunch was especially beneficial to persons with little experience in food service.

The Group by Education by Test interaction was not significant for across subject-matter areas or for any of the specific subject-matter areas. This finding indicated that people in the two education classifications had similar gains from the training.

The Group by Job by Test interaction did not attain significance for across subject-matter areas. Significance beyond the five percent level was obtained for the subject-matter area of menu making. In this area, the mean scores of the managers of the control group increased slightly from pre-test to post-test; however, the mean scores of the cooks in the control group diminished from pre-test to post-test. Trainees in both job classifications of the experimental group reacted positively to the training, but the cook classification made the greater gain.

One might expect that people with less experience, less education, and working in the capacity of cook would obtain lower pre-test scores and that groups with the lowest pre-test scores might make the largest gain. To consider these questions the mean pre-test and gain scores for the one-year experimental group, classified by the selection criteria, were studied even where in some instances the differences in scores were not statistically significant.

The data tended to support the expectation that people with less experience, less education, and working in the capacity of cook had lower pre-test scores, but the evidence was not conclusive on these comparisons. The low experience and low education groups usually tended to have the higher gain scores. For the classification of job responsibility, however, the evidence was particularly inconclusive. The mean gain for managers was higher than that for cooks in six of the subject-matter areas; whereas, cooks attained higher gains in the remaining five subject-matter areas. Differences were significant only for the area of menu making, in which cooks had the greater gains.

Nonsignificant Group by Test interactions were obtained for three areas: sanitation, work methods, and philosophy of school lunch. The tests for these areas were among the four tests which were not found to yield reliable estimates; hence, failure to obtain significant differences could well be attributed to the unsatisfactory measurement of the learning in these three areas.

Achievement of one-year and three-year experimental groups

To determine whether there was a difference in achievement between the one-year and three-year experimental groups, the mean post-test scores for the one-year experimental and three-year experimental groups were subjected to t-tests. Significant t-values beyond the five percent level were obtained for the scores on total across subject-matter areas and the test on menu making. Significant t-values beyond the one percent level were obtained for the areas of Type-A lunch, nutrition, and purchasing. For each of these areas, the mean post-test scores of the one-year group exceeded those of the three-year group.

Aptitudes and job knowledge

The General Aptitude Test Battery (GATB) was administered to the three groups during the post-test period. These tests provided measures for the aptitudes of intelligence, verbal, clerical perception, numerical, and spatial (32). To determine the relationship of aptitudes to job knowledge prior to food service training, pre-test scores across subject-matter areas for the combined one-year experimental and control groups were correlated with each of the five aptitude scores. All of the correlation coefficients obtained were above .50 and significant beyond the one percent level:

Aptitude	Correlation coefficient
Intelligence	.80**
Verbal	.74**
Clerical perception	.50**
Numerical	.75**
Spatial	.54**

A positive relationship existed between these specific capacities and the amount learned about the job in the work situation or other experience prior to training.

For the aptitude of intelligence, scores of the combined one-year experimental and control groups were also correlated with the scores for each of the 11 subject-matter areas. All of the correlation coefficients obtained were significant beyond the one percent level. This suggested that persons with higher intelligence scores, thereby demonstrating higher learning ability, learn more about their jobs in the work situation.

The relationship of aptitude scores and gain in job knowledge resulting from food service training was studied by correlating the scores from each of the five aptitude tests for the one-year experimental group with the subject-matter gain scores (difference between pre-test and post-test scores across subject-matter areas). The correlation coefficients obtained did not substantiate a significant relationship between aptitude scores and gain in job knowledge as a result of training.

To determine if the relationship between the five aptitude scores and the pre-test scores varied with experience, the aptitude scores for each experience group (high and low) were correlated with the pre-test scores across subject-matter areas. The correlation coefficients except one ranged from .56 to .83 and all were found to be significant beyond the one percent level. Since the correlation coefficients were significant for both experience groups, it was evident that length of experience had little influence on the relationship between aptitudes and job knowledge prior to training.

Aptitudes and ability to respond to mathematical and nonmathematical questions

Because some mathematical skill was needed in responding to some test items, the scores on the test items in two subject-matter areas were divided in two parts, mathematical and nonmathematical. The two tests containing items involving mathematical computations were purchasing and food preparation.

To determine the relationship between the numerical and intelligence aptitudes and ability to respond to mathematical and nonmathematical items, correlations were run between the numerical and intelligence aptitude scores and the pre-test mathematical and nonmathematical scores of the purchasing and food preparation tests for the one-year experimental and control groups. All correlation coefficients ranged from .49 to .68 and were significant beyond the one percent level. The correlation coefficients between the mathematical parts of each test and the numerical aptitude were highest; on the other hand, the coefficients between the nonmathematical parts and the intelligence aptitude were highest.

Aptitude norms and job knowledge

A United States Employment Service (U.S.E.S.) research study conducted in Mississippi established norms for food service workers employed in school lunch programs (31, 34). Three aptitudes, intelligence, verbal, and clerical perception were considered occupationally significant for the positions, food service supervisor and head cook in a school cafeteria. Specific aptitude norms established for these occupations were set at a critical score of 80 for each of the three aptitudes. The number and percent of individuals in the three groups in the present study who met the U.S.E.S. norms for the three aptitudes are given in Table 4.

Table 4. Number and percent of individuals in three groups who met norms for occupationally significant aptitudes

Group	Met all three norms		Did not meet norms	
	no.	%	no.	%
One-year experimental	35	81.4	8	18.6
Three-year experimental	28	80.0	7	20.0
Control	32	74.4	11	25.6
All three	95	78.5	26	21.5

To determine the relationship of the U.S.E.S. norms to job knowledge prior to training, mean scores for the pre-test, subject-matter total scores were computed for the one-year experimental group on the basis of those who met and did not meet established aptitude norms for food service personnel. The mean score of participants who met the norms was found to be considerably higher, and a t-test run on the means was significant beyond the one percent level.

To determine the relationship for the one-year experimental group between the high and low scorers[1] on the subject-matter pre-test and those who met and did not meet the norms, a four-way table was prepared and evaluated by use of the Phi correlation coefficient and Chi square. A coefficient of .56 was obtained which was significant beyond the one percent level. Of the 29 in the high scoring group, only one would not have been hired originally had the results of the aptitude tests been used as a basis for employment. Of the 14 low scorers, half would not have been employed.

To determine the relationship between the high and low scorers in the one-year experimental group on the subject-matter post-test and those who met and did not meet the established aptitude norms for food service workers, a similar analysis was conducted on post-test scores. A Phi correlation coefficient of .43 resulted which was significant beyond the one percent level. Of the 29 individuals who were in the high scoring group, two would not have been selected for training had the results of the aptitude tests been used as a basis for selecting trainees; of the 14 in the low scoring group, six would not have been selected.

To determine whether there was a difference in achievement or gain from training in food service employees who met and did not meet the norms, means for gain across subject-matter areas on the basis of those who met and did not meet the norms were compared by t-test. The mean gain score of the latter was found to be slightly higher, but t-values were not significant at the five percent level.

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[1] Scores falling in upper two-thirds of range were considered to be high scores and scores falling in lower one-third of range were considered to be low scores.

Attitudes and training

Attitude tests designed to differentiate between positive and negative attitudes toward the selected food service jobs, cook and waitress, were administered before and after training (2). The relationship between attitude scores and job knowledge before training was studied by correlating the pre-test attitude scores with the total pre-test subject-matter scores of the combined one-year experimental and control groups. The three selection criteria were held constant by running correlations within each cell. None of the correlation coefficients was significant at the five percent level.

To determine if training produced changes in attitudes toward selected food service jobs, analyses of variance were performed on the pre-test and post-test attitude scores, cook and waitress, of the one-year experimental and control groups. None of the effects subjected to analysis were found to be significant at the five percent level.

Objective Measurements of Performance On the Job (26)

The on-the-job performance of 12 managers from each of the one-year experimental and control groups was measured objectively eight months after training to determine if a relationship existed between what was learned in training and practiced on the job. Performance measures were administered in the 24 schools by two observers.

Analyses of variance, analyses of covariance, and correlations were performed on percent scores where appropriate to the hypothesis tested. Even though the analyses included all subject-matter areas, findings involving scores from the subject-matter tests (pre-test and post-test measurements) are reported only for across subject-matter areas and for the seven tests that met the reliability criterion.[1]

Comparison of on-the-job performance of trained and control groups

To determine whether the trained group differed in their performance on the job from those who did not receive training, scores for the trained and control groups were compared across subject-matter areas and for each subject-matter area by covariance analyses. Adjustment was made in the performance scores of the two groups for differences in pre-test scores. The main sources of variation were Group, Observer, and the interaction of Group and Observer. Sources of variation that were significant were as follows:

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[1] The evaluation tests for supervision, sanitation, work methods, and philosophy of school lunch failed to meet the reliability criterion.

Source of variation	Subject-matter area	F-value
Group	Type-A lunch	6.60*
Observer	Record keeping	30.33**
	Purchasing	4.59*

The significant F-value for Group for the subject-matter area of Type-A lunch led to the conclusion that in so far as initial level of competence was controlled by pre-test scores, the on-the-job performance of managers who had received training was superior in the subject-matter area of Type-A lunch to the on-the-job performance of those who had not had training. Across subject-matter areas and for the remaining subject-matter areas, the null hypothesis was tenable.

When performance scores were averaged across 11 subject-matter areas, although not statistically significant, the adjusted performance overall mean for the trained group was higher, 66.1 percent compared to 56.5 percent for the control group.

Significant F-values for Observer in the subject-matter areas of record keeping and purchasing revealed the Observer I tended to rate more highly than Observer II. In four of the remaining nine subject-matter areas, however, Observer II tended to rate more highly than Observer I.

Relationship of on-the-job performance to post-test scores

To investigate how well post-test scores reflected on-the-job performance, percent performance scores and percent post-test scores across subject-matter areas and for each subject-matter area were compared by analysis of variance for the trained and control groups. The participants were divided into two groups, high- and low-scoring, according to post-test scores.

The analysis of variance was carried out in such a way that the mean square designated Post-test, provided a measure of how consistently individuals with high post-test scores showed high performance on the job, and vice-versa. The main sources of variation were Group, Observer, and Post-test. Significant sources of variation were as follows:

Source of variation	Subject-matter area	F-value
Group	Type-A lunch	5.07*
Observer	Record keeping	24.93**

The significant F-values for Group in the subject-matter area of Type-A lunch and Observer in record keeping were consistent with the findings of the previous hypothesis tested. As was expected, no other F-value for the main effect, Group, attained significance. Although not statistically significant, the next highest F-value for Observer was obtained in the subject-matter area of purchasing.

Since none of the F-values for Post-test and the interactions involving Post-test were significant, it was not possible to reject the null hypothesis. There was no statistical evidence that the subject-matter evaluation instruments could be used to differentiate among the participants in regard to job performance.

Although not of statistical significance, the data suggested that training in the subject-matter area of Type-A lunch had more carryover to the work situation than the remaining subject-matter areas. The members of both the trained and the control groups who had scored high on the post-test showed an average performance score of 94.8 percent, while those who had scored low on the post-test had a score of 91.0 percent.

Comparison of specific post-test items with direct-comparison performance measures

To determine the extent to which the participants translated job knowledge into action, 13 specific performance measures were observed for which the underlying basic learnings had been tested in the subject-matter tests (pre-test and post-test measurements). These items were referred to as direct-comparison performance measures. Of the 13, nine pertained to basic learnings in the area of menu making, two in purchasing, and one in sanitation and Type-A lunch.

For each measure, the trainees were classified in one of three categories according to achievement on the post-test:

Knew	(perfect score)
Partly knew	(part score)
Did not know	(zero score)

There were three possible outcomes for each category from the results of the performance measures, task performed, task partly performed, task not performed, giving a total of nine possibilities. A frequency was obtained for each of the nine categories for the trained and control groups, and findings are discussed after the statements of behaviors expected.

Behaviors: Menu making The manager should predict the number of persons to be served.
Menu making The manager should indicate serving sizes or serving measures for each item.

There was little or no evidence in the post-test responses that the basic learnings had been learned, but on the job these tasks were performed satisfactorily. This indicated that the trainees were unable to verbalize the concepts on the post-test.

Behaviors: Menu making The manager should decide the quantity of menu items to be prepared.
Menu making All menu making reference materials and supplies should be arranged in one place.
Purchasing Commonly used foods should be purchased in their largest units or container.

All the participants in both groups applied or partly applied the basic learnings even though a small percentage was not able to verbalize the learnings on the post-test.

Behavior: Menu making The menu should be planned to include a contrast of colors within each meal.

Although all of the participants in the trained group and in the control group knew this concept, in each group 92 percent only partly applied it.

Behavior: Menu making The menu should be planned to include favorite foods of good nutritional content.

All the participants of both the trained and control groups applied or partly applied the basic learning on the job, but half of those in the trained group who knew the basic learning only partly applied it. All of the participants in the control group who knew the concept applied it.

Behavior: Menu making Menus for one or more weeks should be planned one or more weeks in advance.

Both groups knew the basic learning and applied the basic learning 100 percent.

Behavior: Menu making A regular time should be scheduled for planning menus.

All of the participants in the trained group knew the basic learning, but 50 percent did not practice the learning. Among 73 percent in the control group who knew the basic learning, 18 percent did not practice the learning.

Behavior: Menu making Young children of the lower elementary grades should receive smaller sized servings of the foods listed for the Type-A lunch. Second portions should be available.

All of the participants of both groups knew the basic learning. In the trained group, 40 percent did not practice it; in the control group, 22 percent did not practice it on the job.

Behavior: Purchasing All meat used should be USDA inspected.

Nine percent in both groups who partly knew the basic learning did not have USDA inspected meat in their refrigerators. The remaining participants either knew or partly knew the basic learning and practiced it.

Behavior: Sanitation All stored foods should be kept in covered containers, spaces should be left between cases, and nothing should be placed directly on the floor.

Ninety-two percent of the participants in both groups kept storerooms only partially in accord with recommended procedures, and these same individuals did not fully understand the learning upon completion of the training.

Behavior: Type-A lunch The amount of food purchased for a given number of servings of protein-rich foods, vegetables and fruits should coincide with the amount recommended for purchase in the Food Buying Guide (27).[1]

For these measures, only two categories were used: the "do" category denoted that either a correct amount or excessive amounts were purchased and the "did not do" denoted that inadequate amounts were purchased to meet specification for the Type-A lunch pattern. Among 83 percent in the trained group who knew or partly knew correct purchasing procedures for protein-rich foods and vegetables and fruits, 25 percent served inadequate amounts of protein-rich foods and 16 percent served inadequate amounts of vegetables and fruits. Although a slightly smaller percent in the control group knew or partly knew the concept, the same percentages as in the trained group were not applying the concept.

Relationship of on-the-job performance to aptitudes

To relate on-the-job performance to aptitudes for both the trained and control groups, the performance scores for the trained and control groups for each subject-matter area and total across subject-matter areas were correlated with the scores for each of the five aptitudes. To adjust for Group and Observer differences, the performance scores and the aptitude scores of the 24 participants were dichotomized by Group and by Observer, and a weighted correlation coefficient was obtained from the weighted sums of squares for observations in each group. The following correlation coefficients were found to be significant:

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[1] Comparison between size of serving served on day of visit and size of serving required to meet Type-A requirements.

Subject-matter area	Aptitude	$\bar{\bar{r}}$
Supervision	Intelligence	.53*
	Verbal	.50*
	Clerical perception	.59**
	Numerical	.60**
Sanitation	Intelligence	.47*

These findings indicate that trainees who had higher intelligence scores also had higher on-the-job performance scores in supervision and sanitation. In addition, trainees who had higher verbal, clerical perception, and numerical scores, also had higher on-the-job performance scores in supervision. The null hypothesis was tenable for the remaining comparisons.

Comparison of retention of learning of trained and control groups

A paper-and-pencil retest consisting of the short answer and matching questions contained in the nutrition test was administered to each manager during the visits to the 24 schools. A period of at least eight months had elapsed between the administration of the post-test and retest.

To compare retention of learning of the trained and control groups, a multiple classification analysis of variance with repeated measurements was performed on the percent pre-test, post-test, and retest scores of each test for the trained and control groups. Two individual comparisons were made: pre-test means against the average of post-test and retest means (C_1); and post-test means against retest means (C_2). The main effects of Group, Test, and their interactions with respective F-values for the subject-matter area of nutrition are given in Table 5. The pertinent percent means of the analysis are given in Table 6.

The salient feature in these analyses was the interaction of Group with Test comparisons (Group by C_1, and Group by C_2). The nonsignificant F-values, Table 5, indicated that the trained and control groups performed about the same from test to test. Neither hypothesis could be disproved. Differences in the two groups could not be found to indicate that the trained group was better able to recall facts and generalizations concerning nutrition eight months after training as measured by a given instrument. Although both groups made slight gains from pre-test to retest, the control group made the larger gain in this respect.

An F-value of 9.52 for Test was significant beyond the one percent level. More specific analyses were the comparisons of pre-test means against averaged post-test and retest means (C_1), and post-test means against retest means (C_2). The corresponding F-values, 12.08 and 7.00, were significant beyond the one and five percent levels respectively. These F-values indicated that both groups showed significantly positive gain between what they knew in the pre-test and the post-test; furthermore, both groups showed significant losses between what was remembered at the post-test session and eight months after the post-test session.

Table 5. Analysis of variance of pre-test means against averaged post-test and retest means, and post-test against retest means for the subject-matter test of nutrition

Source of variation	df	ms	F
Group	1	986.77	1.54
Persons within group	20	640.38	
Test	2	455.96	9.52**
C_1: Pre- vs. Post- and Retest	1	578.32	12.08**
C_2: Post- vs. Retest	1	335.17	7.00*
Group x test	2	9.96	< 1
Group x C_1	1	6.28	< 1
Group x C_2	1	12.27	< 1
Test x persons within group	40	47.87	
Total	65		

**Significant beyond the .01 level.
*Significant beyond the .05 level.

Table 6. Mean percent pre-test, post-test, and retest scores of trained and control groups for the subject-matter test of nutrition

Group + Overall	Test			
	Pre-test	Post-test	Retest	Overall
	%	%	%	%
Trained	68.0	76.8	70.2	71.7
Control	59.3	68.5	64.1	64.0
Overall	63.6	72.7	67.2	

Subjective Measurements (4)

Ratings of administrators, subordinates, and trainees formed the basis for the subjective measurements. Information from the school administrators regarding participants in the experimental and control groups and from the participants themselves was obtained by written questionnaire; information from two subordinates of each of 12 managers in the experimental group was obtained by interview.

Administrators' ratings of performance before training and after training

Before training and eight months after training, rating scales were mailed to the administrators of the managers and the cooks in the one-year experimental group. The two rating scales were designed to reflect the basic learnings taught at the short courses with regard to supervisory activities of managers and nonsupervisory activities of cooks.

The rating scales were on a five-point basis, with a rating of five indicating superior performance, and a rating of one indicating unacceptable performance. Criteria were provided which defined the highest, lowest, and middle sections of the five-point continuum. The administrators of the managers were asked to rate the job performance of the school lunch manager in seven areas: food preparation, supervision, menu making, record keeping, purchasing, sanitation, and school-community relations. For cooks, they were also asked to rate the job performance in seven areas: food preparation, sanitation, school-community relations, relationship with supervisor, cooperation, adaptability, and ability to follow directions.

Differences in the before training and after training ratings were compared across areas and for each area by t-test. The computed t-values for the administrators' ratings of managers were as follows:

Area	t-value
Total across areas	3.076**
Food preparation	3.163**
Supervision	3.879**
Menu making	2.012*
Record keeping	2.807**
Purchasing	.477
Sanitation	2.244*
School-community relations	3.946**

The computed t-values of the administrators' ratings of cooks were as follows:

Area	t-value
Total across areas	2.756**
Food preparation	2.605**
Sanitation	2.412*
School-community relations	2.788**
Relationship with supervisor	1.532
Cooperation	1.656
Adaptability	1.442
Ability to follow directions	.337

For all areas, there was an increase in the mean of the ratings eight months after training. The mean scores for the administrators' ratings of managers were as follows:

	Mean scores	
Area	Before training	Eight months after training
Total across areas	28.5	31.5
Food preparation	4.1	4.6
Supervision	4.0	4.6
Menu making	4.1	4.4
Record keeping	3.8	4.2
Purchasing	4.2	4.5
Sanitation	4.4	4.7
School-community relations	4.0	4.5

The mean scores of the administrators' ratings of cooks were as follows:

	Mean scores	
Area	Before training	Eight months after training
Total across areas	27.5	30.1
Food preparation	3.9	4.4
Sanitation	4.1	4.5
School-community relations	3.7	4.2
Relationship with supervisor	3.9	4.2
Cooperation	4.0	4.3
Adaptability	4.0	4.3
Ability to follow directions	3.9	4.2

For managers, the ratings on overall performance and in all areas except purchasing were significantly higher eight months after training. For these areas the null hypothesis was rejected.

For cooks, significance beyond the one percent level across areas denoted that the administrators' overall performance ratings were significantly higher eight months after training as well as in the areas of food preparation, sanitation, and school-community relations. For these areas, the null hypothesis was rejected.

The areas in which the cooks were rated can be classified in two distinct categories: subject-matter areas and human relations. Significant differences were found in the administrators' ratings of cooks in the areas that relected the basic learnings taught in the short courses: food preparation, sanitation, and school-community relations. T-values were not significant in any of the human relations categories: relationship with supervisor, cooperation, adaptability, and ability to follow directions.

Administrators' estimates of change in performance

To obtain evidence of change in the performance of school lunch supervisory and nonsupervisory employees which their administrators attributed to participation in the 1967 training program, the school administrators of managers and cooks were also asked to respond to the following questions in a mailed questionnaire:

Experimental group:	Has there been noticeable change in the operation of the school lunch program during the 1967-68 school year that may be attributed to your employee's participation in the school lunch short courses?
Experimental group:	Would you give specific instances of change in the operation of the school lunch program, which in your opinion were attributable to your employee's participation in the short courses (Specific examples should be reported rather than impressions)?
Experimental group:	Would you give specific instances of change in the operation of the school lunch program which in your opinion were NOT attributable to your employee's participation in the short courses (Specific examples should be reported rather than impressions)?
Control group:	Would you give specific instances of change in the operation of the school lunch program during the 1967-68 school year (Specific examples should be reported rather than impressions)?

Except for the first question where only a yes-or-no response was required, the responses to the remaining questions were summarized by content analysis.

Eighteen (86 percent) of the administrators of managers and 15 (75 percent) of the administrators of cooks answered affirmatively to noticing change in the operation of the school lunch program that could be attributed to the employee's participation in the short courses.

The specific instances of change reported by the administrators of the managers and cooks in the one-year experimental and control groups (attributable and not attributable to the short courses in the case of the one-year experimental group), were organized under categories of behavioral change. The administrators of the trainees tended to attribute almost all of the changes to the training program. The categories and frequencies for the administrators' ratings of managers were as follows:

	Frequency of response of one-year experimental group managers n=21	Frequency of response of control group managers n=19
Observes various techniques that result in more appealing menus	13	4
Exhibits improved attitudes	9	2
Uses improved work methods	6	3
Is better able to supervise workers	6	2
Shows deeper concern about controlling food costs	5	3
Makes better use of government commodities	4	2
Applies various principles of food preparation learned in the short courses	3	-
Effects changes in menu to better meet requirements of Type-A lunch	3	1
Recognizes the need to adhere to Type-A lunch pattern	3	-
Implements better sanitation practices	3	-
Keeps better records	2	2
Displays more effort to improve school-community relations	2	2
Works more harmoniously with others	2	-
Other categories	2	4

The categories and frequencies for the administrators' ratings of cooks were as follows:

	Frequency of response of one-year experimental group cooks n=20	Frequency of response of control group cooks n=23
Exhibits improved attitudes	12	3
Observes various techniques that result in more appealing menus	10	-
Makes better use of government commodities	5	-
Applies various principles of food preparation learned in the short courses	5	-
Shows more willingness to exert leadership	3	1
Uses improved work methods	3	2
Implements better sanitation practices	3	-
Is better able to supervise workers	2	4
Recognizes the need to adhere to Type-A lunch pattern	2	-
Shows more interest in philosophy of school lunch	2	1
Keeps better records	2	-
Shows deeper concern about controlling food costs	2	-
Other categories	6	4

Subordinates' estimates of change in performance

To obtain evidence of change in the performance of the school lunch manager which their subordinates attributed to participation in the 1967 training program, two subordinates of each of 12 managers in the experimental group were asked to respond to the following questions by interview:

> Has there been any noticeable change in the operation of the school lunch program during the school year 1967-68 that may be attributed to your manager's participation in the school lunch short courses?
>
> Would you give specific instances of change in the operation of the school lunch program which in your opinion were attributable to your manager's participation in the short courses (Specific changes should be reported rather than impressions)?

A yes-and-no response was requested to the first question. The responses to the second question were summarized by content analysis.

Of 24 subordinates of 12 managers interviewed, three had not been employed prior to the 1967 training experiment. Among the 21 subordinates, 15 (71 percent) replied there had been change.

The specific instances of change reported by the subordinates attributable to the short courses were organized under categories of behavioral changes. The categories and frequencies for the 21 subordinates' ratings of 11 managers in the experimental group were as follows:

	Frequency of response of subordinates n=21
Observes various techniques that result in more appealing menus	18
Uses improved work methods	10
Applies various principles of food preparation learned in the short courses	4
Is better able to supervise workers	4
Effects changes in menu to better meet requirements of Type-A lunch	3
Implements better sanitation practices	3
Recognizes the need to adhere to Type-A lunch pattern	2
Employs different practices which result in an increase of nutrients ingested by the children	2
Makes better use of government commodities	2
Other categories	1

Relationship of administrators' and subordinates' estimates of change in performance

To determine the relationship between the administrators' and the subordinates' ratings of change in the trainees, the procedure described by Buchanan (8) was used to evaluate the responses to the following question:

> Would you give specific instances of change in the operation of the school lunch program which in your opinion were attributable to participation in the short courses?

Responses were obtained by mailed questionnaire from the administrators and by interview for the subordinates.

Two social scientists who were not connected with the training program were asked to examine the responses. On the basis of their interpretation, they decided independently whether the information indicated that some change had occurred in the trainee's job performance, the evidence was inconclusive, or no change had taken place. They were asked to place the participant in the change category only when an actual behavior change was reported; if there was merely a mention of his enthusiasm or general approval of the training, the manager was placed in the no change category. Each social scientist was allowed to determine how much weight should be given to the remarks of the administrators and how much to the remarks of the subordinates. Space was provided on the rating forms where the social scientists could comment in support of their decisions.

The criterion for establishing the standing of each of the participants was based on agreement between the judges. If a disparity occurred in which one judge placed a participant in the inconclusive category, while the second judge decided that no change had taken place, the participant was counted in the no change category.

Of the 24 subordinates of 12 managers interviewed, three had not been employed prior to the 1967 training experiment. Since two of the three subordinates worked in the same school, their manager was omitted from the sample. In the third case the judgments of the social scientists were based on the opinion of the administrator and one subordinate. The number of managers was thus reduced from 12 to 11.

The standing of the participants based on agreement between the judges, by which the criterion of change in job performance attributable to the training program was established, was as follows:

	Number of participants	Percent
Some change had occurred	9	82
Evidence was inconclusive	2	18
No change had occurred	-	-

Based on the interpretation of the social scientists, it may be concluded that 82 percent of the managers had made modifications in job performance which their administrators and subordinates attributed to the training program.

Trainees' perceptions of change in performance

To determine trainees' perceptions of self-change in the performance of their jobs, the managers and cooks were asked to respond to the following questions by mailed questionnaire:

Experimental group: Would you give specific instances of change in the operation of the school lunch program this past year which in your opinion were attributable to your participation in the short courses (Specific examples should be reported rather than impressions)?

Experimental group: Would you give specific instances of change in the operation of the school lunch program this past year which in your opinion were NOT attributable to your participation in the short courses (Specific examples should be reported rather than impressions)?

Experimental group: Give specific areas of training that you were not able to successfully apply on the job and state the reason.

Control group: Would you give specific instances of change in the operation of the school lunch program this past year (Specific examples should be reported rather than general impressions)?

The responses to these questions were summarized by content analysis.

The specific instances of change reported by the managers and cooks in the one-year experimental and control groups (attributable and not attributable to the short courses in the case of the one-year experimental group), were organized under categories of behavioral change. The trainees tended to attribute almost all of the changes to the training program. The categories and frequencies for the managers' self-ratings were as follows:

	Frequency of response of one-year experimental group managers n=21	Frequency of response of control group managers n=19
Uses improved work methods	26	5
Applies various principles of food preparation learned in the short courses	11	-
Is better able to supervise workers	11	-
Observes various techniques that result in more appealing menus	10	8
Keeps better records	5	-
Effects changes in menu to better meet requirements of Type-A lunch	4	1

	Frequency of response of one-year experimental group managers n=21	Frequency of response of control group managers n=19
Recognizes the importance of developing and using standardized recipes	3	-
Observes improved purchasing procedures	3	2
Makes better use of government commodities	3	5
Employs different practices which result in an increase of nutrients ingested by the children	2	2
Implements better sanitation practices	2	1
Displays more effort to improve school-community relations	2	1
Exhibits improved attitudes	2	1
Shows deeper concern about controlling food costs	2	5
Other categories	3	3

The categories and frequencies for the cooks' self-ratings were as follows:

	Frequency of response of one-year experimental group cooks n=20	Frequency of response of control group cooks n=23
Uses improved work methods	18	6
Applies various principles of food preparation learned in the short courses	8	3
Observes various techniques that result in more appealing menus	8	1
Is better able to supervise workers	6	3
Makes better use of government commodities	5	-
Effects changes in menu to better meet requirements of Type-A lunch	3	2
Exhibits improved attitudes	3	1

	Frequency of response of one-year experimental group cooks n=20	Frequency of response of control group cooks n=23
Works more harmoniously with others	2	-
Recognizes the importance of developing and using standardized recipes	2	-
Implements better sanitation practices	2	-
Displays more effort to improve school-community relations	2	1
Keeps better records	2	1
Other categories	5	8

The managers in the one-year experimental group cited the following broad areas in which they were not able to successfully apply the training:

	Frequency of response of managers n=21
Use of labor saving equipment	7
Menu planning and introduction of new foods	5
Record keeping	4
Portion control and cost control	4
Various aspects of food preparation taught in the short courses: for example, weighing ingredients	3
Work scheduling	3
Purchasing	3
Other categories	7

Reasons given by managers for not being able to successfully apply the training were:

	Frequency of response of managers n=21
No opportunity to perform the task	9
Inadequate equipment	7
Former methods and procedures preferred	3
Too little time to implement change	2
Other categories	6

The cooks in the one-year experimental group cited the following broad areas in which they were not able to successfully apply the training:

	Frequency of response of cooks n=20
Menu making and introduction of new foods	7
Record keeping	7
Purchasing	7
Use of labor saving equipment	6
Portion control and cost control	5
Various aspects of food preparation taught in the short courses: for example, baking and oven cooking	3
Supervision	3
Prevents unauthorized personnel from entering kitchen	2
Other categories	2

Reasons given by the cooks for not being able to successfuly apply the training were:

	Frequency of response of cooks n=20
No opportunity to perform the task	15
Unable to communicate ideas for change to co-workers	6
Lack of cooperation from head cook	4
Inadequate equipment	3
Inadequate staffing	2
Other categories	4

Eight months after training, the participants in the one-year experimental group were asked to note how the person to whom they were responsible viewed the training program. Possible responses were: very beneficial, of some value, of no value, and uncertain as to opinion. The frequencies for each type of response for managers and cooks were as follows:

	Number of managers responding	Number of cooks responding
Very beneficial	12	9
Of some value	4	2
Of no value	-	-
Uncertain as to opinion	5	9

Trainees' perceptions of training needs

To compare trainees' perceptions of training needs before, immediately after, and eight months after training, the participants in the one-year experimental group were asked to list aspects of the school lunch program in which they believed they needed training (or further training). Participants in the control group were asked for similar information. The question asked of both groups called for unstructured open-end response. These were classified by subject-matter area and frequencies are given for the managers and cooks of the experimental and control groups in Table 7.

Trainees' perceptions of learning

To compare the trainees' perceptions of degree of learning immediately after and eight months after training, the participants in the one-year experimental groups were asked at both periods to:

1. Check the degree of learning (great deal, some, very little) during the short courses for each of the subject-matter areas.

2. State reasons for rating certain subject-matter areas as "great deal".

3. State reasons for rating certain subject-matter areas as "very little".

Frequencies of response for the degree of learning in each subject-matter area as expressed by managers immediately after and eight months after training are given in Table 8. Comparable data are given for cooks in Table 9.

Content analysis was used to categorize the reasons given by the trainees for rating degree of learning in the 11 subject-matter areas. When the managers in the one-year experimental group were asked immediately after and eight months after training to explain why they learned a great deal about various subject-matter areas, the categorized reasons and frequencies were as follows:

Table 7. Frequency of response for training needs of managers and cooks in the one-year experimental group before, immediately after, and eight months after the training program

Subject-matter area	Group[2]	Managers			Cooks		
		Before	After	After[1] 8 mos.	Before	After	After[1] 8 mos.
Food preparation	Exp.	10	2	5	12	5	4
	Cont.	4	3		6	8	
Supervision	Exp.	6	2	8	1	5	4
	Cont.	5	5		2	1	
Menu making	Exp.	8	3	5	1	5	6
	Cont.	9	11		7	8	
Type-A lunch	Exp.	2	0	0	2	1	0
	Cont.	1	0		0	3	
Record keeping	Exp.	2	4	3	0	5	10
	Cont.	0	1		3	3	
Nutrition	Exp.	2	7	6	0	6	5
	Cont.	0	5		0	6	
Purchasing	Exp.	6	6	6	4	8	7
	Cont.	5	4		7	7	
Sanitation	Exp.	0	3	1	0	0	0
	Cont.	0	1		0	1	
School-comm. relations	Exp.	0	1	0	0	0	0
	Cont.	0	1		0	0	
Work methods	Exp.	3	2	6	1	1	3
	Cont.	2	2		0	2	
Philosophy of school lunch	Exp.	0	0	0	0	0	0
	Cont.	0	0		0	0	

[1] No data were obtained from the control group eight months after training.

[2] The number of managers and cooks in the one-year experimental group was 21 and 20 respectively, and 19 and 23 in the control group.

Table 8. Frequency of response for three degrees of learning reported by managers[1] in the one-year experimental group in each subject-matter area

	Immediately after training			Eight months after training		
Subject-matter area	Great deal	Some	Very little	Great deal	Some	Very little
Food preparation	13	8	0	12	9	0
Supervision	9	11	1	7	13	1
Menu making	14	6	1	11	9	1
Type-A lunch	18	3	0	19	2	0
Record keeping	3	16	2	7	10	4
Nutrition	11	7	3	14	6	1
Purchasing	8	13	0	10	10	1
Sanitation	9	11	1	10	10	1
School-comm. relations	12	9	0	12	6	3
Work methods	10	10	1	10	11	0
Philosophy of school lunch	18	3	0	19	1	0

[1] n=21.

Table 9. Frequency of response for three degrees of learning reported by cooks[1] in the one-year experimental group in each subject-matter area

Subject-matter area	Immediately after training			Eight months after training		
	Great deal	Some	Very little	Great deal	Some	Very little
Food preparation	18	1	1	14	6	0
Supervision	5	12	3	3	13	4
Menu making	15	3	2	14	5	1
Type-A lunch	18	2	0	18	2	0
Record keeping	3	10	7	4	12	4
Nutrition	4	12	4	10	9	1
Purchasing	7	11	2	4	12	5
Sanitation	12	8	0	11	9	0
School-comm. relations	9	11	0	7	12	1
Work methods	7	12	1	12	7	1
Philosophy of school lunch	14	6	0	16	4	0

[1] n=20

	Frequency of response immediately after training	Frequency of response eight months after training
Lack of previous knowledge	10	9
Effective teaching:		
Material clearly presented	7	3
Teacher left an impression	7	2
Repetition resulted in reinforcement	2	-
Demonstration techniques used	1	-
Visual aids used	2	-
Group involvement	-	1
Question and answer sessions	-	1
Training resulted in motivation to apply learnings on the job	3	2
Subject matter was of interest	2	5
Recognition of need for training because of requirements of job	-	5

When the cooks in the one-year experimental group were asked immediately after and eight months after training to explain why they learned a great deal about various subject-matter areas, the categorized reasons and frequencies were as follows:

	Frequency of response immediately after training	Frequency of response eight months after training
Lack of previous knowledge	13	10
Effective teaching:		
Material clearly presented	2	3
Teacher left an impression	6	-
Demonstration technique used	3	-
More time devoted to subject	-	1
Subject matter was of interest	6	5
Lack of previous experience	2	-
Recognition of need for training because of requirements of job	-	2

When the managers in the experimental group were asked immediately after and eight months after training to explain why they learned very little about various subject-matter areas, the categorized reasons and frequencies were as follows:

	Frequency of response immediately after training	Frequency of response eight months after training
Time factor:		
Not enough time devoted to subject	4	5
Not enough time devoted to small group discussions	1	-
No time for absorption and individual study	2	-
Ineffective teaching:		
Subject matter not stressed	-	1
Subject matter not explained	1	-
Subject matter taught at too high a level	1	-
Not enough demonstrations	1	-
Subject matter taught too quickly for comprehension	3	-
Instructor uninteresting	1	-
Educational background:		
Deficiency in mathematics	1	1
Material difficult to understand because training course was first opportunity to study	2	-
Subject matter:		
Subject matter was not of interest because of lack of opportunity to apply learning on the job	1	4
Subject matter already known prior to training	-	2

When the cooks in the one-year experimental group were asked immediately after and eight months after training to explain why they learned very little about various subject-matter areas, the categorized reasons and frequencies were as follows:

	Frequency of response immediately after training	Frequency of response eight months after training
Time factor:		
Not enough time devoted to to subject	5	2
No time for absorption and individual study	-	1

	Frequency of response immediately after training	Frequency of response eight months after training
Ineffective teaching:		
Subject matter not explained	-	1
Subject matter taught too quickly for comprehension	4	1
Subject matter difficult to grasp	-	1
Subject matter:		
Subject matter was not of interest because of lack of opportunity to apply learning on the job	3	3
Subject matter already known prior to training	-	1
Educational background:		
Deficiency in mathematics	2	-
Difficulty in remembering unfamiliar words	1	-
Material difficult to understand because training course was first opportunity to study	1	-
Motivation:		
No recognition of need to put new learnings into practice	2	-

Relationship of self-reported gain and measured gain in job knowledge

To determine if the subject-matter areas in which participants of the one-year experimental group believed they had learned the most were the same subject-matter areas in which they demonstrated the greatest gain in job knowledge as measured by the paper-and-pencil tests, Pearson product-moment coefficients of correlation were run on the degree of learning scores and percent d-scores (difference between pre-test and post-test) for each subject-matter area. The resulting correlation coefficients were as follows:

Subject-matter area	Correlation coefficient
Food preparation	.01
Supervision[1]	.18
Menu making	.50**
Type-A lunch	.05
Record keeping	.02

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[1] Failed to meet the reliability criterion.

Subject-matter area	Correlation coefficient
Nutrition	.22
Purchasing	.04
Sanitation[1]	.04
School-community relations	.07
Work methods[1]	.07
Philosophy of school lunch[1]	.11

Although significance beyond the one percent level was attained for the subject-matter area of menu making, the relatively low correlation coefficient of .50 was hardly indicative of a high degree of relationship between the two variables. The null hypothesis of no relationship between self-reported gain and measured gain in job knowledge remained tenable.

Other Outcomes of the Experiment (1)

One outgrowth of the training experiment was the development of a self-instructional training program for food service employees to compare the effectiveness of such a program to group training and to relate the effectiveness of the self-instructional training to certain factors. The program developed was concerned with three subject-matter areas relating to school lunch service and was designed for employees with a high school education. The experimental group training program that has been described served as a basis for the development of the self-instructional program that was entitled "Learning to Plan Type-A Menus by Programmed Instruction".

The self-instructional program was prepared for three areas selected from the 11 subject-matter areas taught in the group training administered in 1967. The three subject-matter areas were nutrition, Type-A lunch, and menu making. These were selected for the following reasons:

These areas represent an important part of the training program in 1967
The content followed a natural sequence for instruction
Reliable evaluation instruments for the three subject-matter areas were available
Government publications used as reference during the group training were available.

The manual was divided into three sections: Section I, Basic Nutrition; Section II, Type-A Lunch; and Section III, Menu Making. An adjunctive form of programmed instruction was used, that is, programmed instruction used together with reference materials. Reference materials used were:

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[1] Failed to meet the reliability criterion.

A Menu Planning Guide for Type-A School Lunches (29)
A Daily Food Guide (28)
Quantity Recipes for Type-A School Lunches (30).

The program developed is on file in the Department of Institution Management, Iowa State University.

The behavioral objectives and the content of the self-instructional training program were made to agree with that of the group training by using the objectives and basic learnings delineated for the respective subject-matter areas taught in the 1967 program. Tape recordings and notes of class presentations given in the group training were reviewed. Short course workbooks and other reference materials were examined.

Frames were constructed using a hybrid of the Crowderian form of programmed instruction developed by Schuster (24). Printed words and illustrations were used in the development of a concept or generalization.

Empirical testing of the three sections of the program was conducted. Each section of the manual was tested twice before the final revision. In the first testing, two laboratory assistants completed the program in the presence of the programmer. This phase allowed for subjective evaluation of the program. Two faculty members of the Department of Institution Management also reviewed the program. The second empirical testing of the program involved its use by 11 school lunch employees. The programmer sat with two of the employees as they studied the materials; nine other school lunch employees studied the materials on their own. These testings afforded the following results:

Identified parts that were not clear
Allowed the programmer to observe the reactions of learners to the program
Provided additional suggestions for clarification and simplification of the wording of frames and questions
Provided a guide to the amount of time needed to study the programmed materials.

The program was reviewed by faculty members of the Institution Management, Home Economics Education, Food and Nutrition, and Psychology Departments, Iowa State University. The program was also reviewed by the Nutrition Consultant in the School Lunch Section, Iowa State Department of Public Instruction. The factors that reviewers were asked to consider included: structure and clarity of frames, content and sequence, and vocabulary and sentence structure. The frames were revised after each testing and review, based on the comments and suggestions received.

The program developed will be administered to a group of school food service employees in a subsequent experiment.

CONCLUSIONS AND RECOMMENDATIONS

The objectives of the training experiment were to determine the effects of an in-service training program for food service workers and the relationship of selected factors to the effectiveness of this training. The training was evaluated at three levels: by pre-test and post-test measurements; by objective measurements of performance on the job; and by subjective measurements.

Effects of Training and the Relationship of Certain Factors

Major outcomes of the training emperiment are given below. In instances involving the subject-matter tests, the conclusions drawn are based on the seven tests that met the reliability criterion.

Pre-test and post-test measurements

- Participants who received training gained significantly from pre-test to post-test in all seven subject-matter areas.
- Training in the subject-matter areas of menu making and Type-A lunch was especially beneficial to persons with little experience in food service.
- Prior to training, employees who had completed at least the twelfth grade evidenced significantly more job knowledge in four subject-matter areas than those who had less education. In the remaining three areas, the mean pre-test scores for the high education group were higher, but not significantly so.
- Prior to training, personnel employed in supervisory roles as managers possessed significantly more job knowledge in all seven subject matter areas than those working in nonsupervisory roles as cooks.
- Prior to training, persons with higher scores for the aptitudes of intelligence, verbal, clerical perception, numerical, and spatial had acquired more information about their jobs during their work and other experiences than persons with lower aptitude scores.
- Prior to training, individuals who met the United States Employment Service (U.S.E.S.) norms established for food service workers for the occupationally significant aptitudes of intelligence, verbal, and clerical perceptions had more job knowledge than those who did not meet the norms.
- Using the U.S.E.S. norms, high and low scorers on the post-test subject-matter measurements were significantly different; more persons who met the norms were in the high scoring group.

Objective measurements of performance on the job

- The on-the-job performance of school lunch managers who had received training was superior in the subject-matter area of Type-A lunch to the on-the-job performance of those who had not had training. Performance in the other subject-matter areas was not significantly different.

Subjective measurements

- Behavioral changes judged by administrators, subordinates, and trainees to be attributable to the training were:

  Observes various techniques that result in more appealing menus
  Uses improved work methods
  Is better able to supervise workers
  Applied various principles of food preparation learned
  Exhibits improved attitudes
  Effects changes in menu to better meet requirements of Type-A lunch
  Makes better use of government commodities
  Shows deeper concern about controlling food costs
  Shows more willingness to exert leadership
  Implements better sanitation practices
  Keeps better records.

- A positive relationship existed between the trainees' perceptions of learning after training and modification of behavior on the job.

- A positive relationship existed between perceptions of training needs before training, perceptions of learning after training, and modification of behavior on the job in the subject-matter areas of food preparation and menu making.

The training had a definite impact on the trainees involved. The data substantiated that job knowledge increased from the training. The relatively high percentage of trainees who were identified through subjective measurements to have made some modification in on-the-job performance, along with the concrete illustrations of behavioral change cited by the administrators, subordinates, and the trainees themselves, lent support to the proposition that the training program produced change in the behavior of the trainees. Although the results from the objective measurements of on-the-job performance were not significant except in one instance, in general other results demonstrated the potential worth of the educational program for learning facts and generalizations and applying them.

In the pre-test and post-test measurements, the trainees gained significantly over the control group in the subject-matter areas of food preparation, supervision, menu making, Type-A lunch, record keeping, nutrition, purchasing, and school-community relations. No significant differences were obtained for the areas of sanitation, work methods, and philosophy of school lunch; however, the evaluation instruments for supervision, sanitation, work methods, and philosophy of school lunch failed to meet the reliability criterion. The significant differences found in the means of the sanitation performance scale completed by the administrators before and after training, the high frequencies of behavioral change cited by all raters in work methods and supervision, and the high frequencies of perception of learning cited for philosophy of school lunch, work methods, and sanitation suggested that the trainees did learn in these subject-matter areas and that the nonsignificant differences between the pre-test and post-test scores may be attributable to the unreliability of the tests.

Length of experience in food service was not found to be associated with job knowledge prior to training as length of experience and job knowledge were defined in the experiment. For persons with little experience in food service, training was found to be especially beneficial in the subject-matter areas of menu making and Type-A lunch.

Level of education was found to be related more positively to learning from experience previous to training than to the formally structured training program. Although employees who had completed the twelfth grade possessed significantly more job knowledge in five subject-matter areas prior to training, level of education was not significantly related to gain in job knowledge from the training program. The relationship of education to pre-test scores and gain scores has particular pertinence, for it tends to support the desirability of preplanned systematic training programs, especially for employees of lower educational background.[1] The question remains, however, as to whether somewhat more advanced program content would have resulted in greater gain for the high education group.

The nature of the participants' responsibilities on the job was related to job knowledge prior to the training program. Personnel employed in supervisory roles as managers possessed significantly more job knowledge than those working in nonsupervisory roles as cooks. The desirability of offering separate training sessions for supervisory and nonsupervisory personnel for selected subject-matter areas was evident.

Prior to training, persons with higher aptitude scores had learned more about their jobs during their work and other experiences than those with lower aptitude scores. In addition, the U.S.E.S. norms for food service workers for the occupationally significant aptitudes of intelligence, verbal, and clerical perception, were found to discriminate between high and low scorers on the pre-test. The norms could serve as useful tools for selection of school food service job applicants. By employing only personnel that meet or exceed critical scores set for the occupationally significant aptitudes, the employer would be more likely to obtain potentially successful employees if job knowledge is an indication of success.

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[1] This finding was contrary to that of Cenci (11) who found relationship between previous schooling and success in training. Cenci disavowed, however, that this relationship was absolute and should not cause acceptance or rejection of trainees as potential successes or failures.

No relationship was found between aptitude scores and gain in job knowledge as a result of training. In addition, although it was found that the U.S.E.S. norms discriminated on post-test scores, there was no difference in achievement or gain from training of employees who met and did not meet the established norms. This finding appears to have significance in selection of persons for training. It infers that persons selected from a cross section of the population would derive as many benefits from training of the type provided as those with high aptitudes.

A positive relationship existed between the learnings perceived by the trainees and modification of behavior on the job. In other words, areas in which the trainees were judged to have improved their performance corresponded to the areas for which there was an awareness of learning. This was particularly true in the subject-matter area of Type-A lunch. For the subject-matter areas of food preparation and menu making, in addition to agreement between perceptions of learnings and modification of behavior on the job, training needs were perceived prior to training.

The use of two instruments[1] to measure attitude toward the two food service jobs of waitress and commercial cook did not disclose significant changes in attitudes as a result of training. It was recognized, however, that this type of attitude change was not likely to occur during a time span of 45 days.

According to the subjective measurements obtained by ratings of the trainees' administrators eight months after training, a positive attitude change was believed to have occurred in the trainees toward their position in school food service. This finding, coupled with the fact that a large number of participants referred to the subject-matter area of philosophy of school lunch as one of the most helpful areas of training, led to the conclusion that the training resulted in better understanding by the trainee of his relationship to the school lunch program, and in the development of competence that made the trainee more self-reliant and responsible.

The on-the-job performance of school lunch managers who received training was superior to those who were not trained in only one subject-matter area, Type-A lunch. It may not be said that the training did not make a difference in on-the-job performance in the remaining subject-matter areas since it does not follow that failure to reject a null hypothesis is indicative of acceptance. Possible reasons why there were not significant changes in on-the-job behavior in the other areas

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[1] These instruments were developed by Arcus (2).

areas may be attributed to the training program itself, lack of retention or insufficient motivation on the part of the trainees, the design of the experiment and environmental variables over which the managers had no control.

Although it was ideally desirable to link on-the-job performance to training since the objective of training is a certain type of behavior on the job, only in rare instances have training programs or techniques been experimentally evaluated in terms of job proficiency achieved by trained workers. When such studies were made, emperimenters had great difficulty with obtaining adequate measures of performance. Additionally, in a research study of a supervisory traing group, Blansfield (7) found that 90 to 95 percent of the group was apparently incapable of effectively translating class theory into action; MacKinney (19) stated that it was not at all uncommon for the control group to gain as much as the trained group in job proficiency; and Wallace and Twichell (35) noted that training as it is carried out in specific situations may not produce any improvement in worker performance at all.

Further studies related to the training experiment have been initiated. The objective of one study is to test retention of the one-year and three-year experimental groups after a two-year period. The objective of another study is to analyze the items contained in the pre-test and post-test subject-matter evaluation instruments. It is hoped that the item analysis will give further insight into the effects of training and provide a basis for improving evaluation techniques. The manual developed for use in a food service training experiment using programmed instruction was designed specifically for an experimental research study. The content was made to agree precisely with that of the corresponding subject-matter areas in the 1967 group training program. It was recognized in the development of this manual that some revision would be desirable in the future if the program were to be adapted for general use. The anticipated experiment using the program and comparing the results with group training will also provide a basis for possible revision of the program.

Research Methodology

Evaluation of the training at three levels, pre-test and post-test measurements, objective measurements of performance on the job, and subjective measurements provided a comprehensive evaluation of the effects of training.

The design of the experiment provided the opportunity to identify the relationship of certain factors. This was made possible through the selection criteria of length of experience in food service, level of education, and job responsibility used in selecting the trainees. In addition, during the course of the experiments it was established that the one-year experimental and control group were like groups in regard to job knowledge prior to training, and both experimental groups and the control group were alike in regard to the aptitudes of intelligence, verbal, clerical perception, numerical, and spatial.

Seven of the pre-test and post-test measurements were found to be reliable measures of those facts and generalizations taught. By taking the difference determined by the before-and-after measures, it was possible to relate learning to the training in the seven areas.

The procedure of objective measurements of performance on the job utilized certain objective criteria of effective job performance. It had the advantage of being freer from bias than the subjective measurements, but the problem of administration was great. With the exception of one subject-matter area (Type-A lunch), significant differences between the trained and control groups were not obtained. One possibility for failing to obtain significance for the other areas of training was that the measurements were based on only one observation on one particular day; variability in the behavior of the trainees coupled with the dynamics of the food service operation were likely to create sizable error in the measurement system. It was also possible that on-the-job performance measures before training would have made a difference since pre-training subject-matter test scores were used as control measures in the analysis rather than pre-training performance scores. Recommendations were made to measure behavior on the job prior to training, to increase sample size, to increase the number of observations on each performance measure, and to have only one observer.

In the subjective measurements, dimensions of learning were found to have occurred which were reflected neither in the pre-test and post-test measurements nor in the objective measurements of performance on the job. The subjective measurements provided insight into several outcomes of training which were difficult to anticipate or predict and difficult to measure accurately. As evidence of the validity of subjective measurements, the changes in job performance which were reported for trainees by administrators and subordinates were consistent with the goals of the training program and with the learning reported by the trainees themselves.

Investigations by Wilson (36) as well as other studies throughout the literature demonstrate quite clearly that assessments obtained from subjective measurements are relatively independent of those obtained from written job knowledge and practical performance measures. Subjective measurements seldom show a high correlation to objective measurements even though both are considered reliable. The conclusion is drawn that subjective measurements are particularly useful when employed in conjunction with pre-test and post-test measurements and objective measurements of performance on the job.

According to Korb (17) there is often a tendency to expect too much from short, formal training programs. If training is directed principally toward behavior change, results should be tempered with the knowledge that such change comes slowly; the objective in training is not to remake the organization, but to achieve some favorable modifications in what people do and how well they work together.

Lindbom and Osterberg (18) recognized that there have been few organized attempts made to determine the validity of formal training programs. Bass and Vaughan (3) stated that the different levels of evaluation, pre-test and post-test measurements, objective measurements of performance on the job, and subjective measurements, represent an ideal that has seldom been approached in the field of training education.

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SECTION IV

DEVELOPMENT OF INSTRUMENTS TO ASSESS QUALITY OF SERVICE AND QUALITY OF FOOD

SUMMARY

To facilitate the identification of bases for vocational education for the food service industry it is necessary to develop means for assessing the need for training and measuring the effects of training in terms of the success of the food service establishment in which personnel are employed. Criteria for successful operation may be viewed in terms of quality of service, quality of food, and economic feasibility. Procedures are available for measuring the economic outcomes, but objective methods which provide reliable and valid quantitative measurement of quality of service and quality of food have not been. Two studies were made in an attempt to develop such instruments.

Development of an Instrument to Assess Quality of Service

An instrument was designed to assess quality of service in table service restaurants. A total of 135 items concerned with specific service situations and conditions were incorporated into an original item pool. Thirty-one judges rated the items on a seven point scale. Based upon these responses, a scale value and a Q value were derived for each item. Subscales for customer enjoyment, sanitation, and speed of service were categorized. In developing the final evaluation instrument, a procedure was formulated using the technique of equal-appearing intervals. Forty-five items were selected from three subscales. The instrument was pre-tested to determine inter-rater reliability and retest reliability by a four-member evaluation team. The responses of the raters were scored using a Likert technique. The mean inter-rater reliability coefficient was .89, which indicated that the inter-rater agreement was high enough to be very acceptable. The retest reliability coefficient was .68. It was evident that in order to determine a quantitative score for the quality of service in a restaurant, the service should be evaluated more than twice and an average score for service determined.

In addition to evaluating the service based on the 45 items, the raters were asked to give an overall rating. There was a correlation of .60 between these ratings and the ratings based on 45 individual items; however, the evaluation based on the 45 items was believed to give more articulated information.

Recommendations were made for improvement in the evaluation instrument by further investigation.

Development of an Instrument to Assess Quality of Food

An instrument was developed to assess quality of food in food service establishments. Types and subtypes of foods and quality characteristics to be evaluated were outlined. Individual scales for evaluating the quality characteristics of each food subtype were designed.

A panel of raters was selected on the basis of responses to a food preference scale. The food quality evaluation instrument was tested to determine inter-rater reliability and retest reliability by a group of four raters. The mean inter-rater reliability coefficient was .79 for Test I and .90 for Test II, indicating that there was satisfactory agreement among raters. The mean retest correlation coefficient was .75 based on raw scores and .70 based on Z scores, indicating that the raters tended to use the instrument in the same way on two different visits.

In addition to evaluating the food service establishments on the basis of quality of selected food items, the raters were asked to indicate on a scale the general acceptability of the entire meal in each establishment. The mean inter-rater agreement was .84 in Test I and .82 in Test II. When the general acceptability scores were compared with the Z scores based on three food items, the correlation was .85. Although there was relatively high correlation between the two types of scores, it was concluded that the total scores for three individual items may have some advantage over the general acceptability scores if the latter were used alone. Further testing of the instrument was recommended.

INTRODUCTION

To facilitate the identification of bases for vocational education for the food service industry it is necessary to develop means for assessing the need for training and measuring the effects of training in terms of the success of the food service establishment in which personnel are employed. Criteria for successful operation may be viewed in terms of quality of service, quality of food, and economic feasibility. Procedures are available for measuring the economic outcomes, but objective methods which provide reliable and valid quantitative measurement of quality of service and quality of food have not been. Two studies were made in the Institution Management Department, Iowa State University, in an attempt to develop such instruments.

DEVELOPMENT OF AN INSTRUMENT TO ASSESS QUALITY OF SERVICE (7)

The purpose of this study was to develop an evaluation instrument to assess the quality of service and service related aspects in restaurants so that a quantitative score could be ascribed to the service in a particular establishment.

Service has been indicated as an important determinant in the success or failure of a restaurant. Service and service related aspects have been reported to be equally important and often more important to the customer than the food. A search of the literature revealed there was no evaluation instrument available that could be used to quantitatively measure the quality of service in a restaurant. Such an instrument is needed for research purposes to identify the need for training and the effect of training. An appropriate instrument could also be used to advantage in food service management.

The instrument was designed for use in table service restaurants during luncheon service. Throughout the study, it was assumed that service should reflect practices indicative of acceptable standards of public health, the interests of restaurant management, and the desires of the patron. Three arbitrary aspects of service were postulated: customer enjoyment, sanitation, and speed of service. It was recognized that each aspect of service was related to personnel and physical conditions.

The first step was to determine the components of quality service. Three food service managers, three food service educators, three patrons, and two sanitarians were interviewed using a procedure similar to the non-directive interview technique (5). Each respondent was asked to state specific situations and conditions that existed in restaurants during luncheon service that to him were indicative of very good service and those indicative of very poor service.

The statements were edited, and a total of 135 items concerned with specific service situations and conditions existing in restaurants were incorporated into an original item pool. To determine the relative importance of each item to quality of service, thirty-one raters including food service managers, food service educators, patrons, and sanitarians rated the 135 items on a seven point scale. In addition, the raters ranked, according to their opinion, the relative importance of speed, sanitation, and enjoyment to the quality of service. A copy of the original item pool and instructions for rating the statements are shown in Appendix C.

Based upon the responses to the original item pool, a scale value, which was the median of the distribution of judgments, and a Q value, which measured the variation in the distribution of judgments, were derived for each item. The 135 items were categorized, forming subscales for customer enjoyment, sanitation, and speed of service. Three criteria were used in selecting the items for the evaluation instrument:

1. Graduated scale value

2. Low, but not necessarily the lowest, Q value

3. The possibility of occurrence in a restaurant, that is, when the scale and the Q values for two items were comparable, the item that described a situation or level of performance which was more likely to occur, was selected.

In developing the instrument, a procedure was formulated using the technique of equal-appearing intervals (2, 6). The plan was to choose two items with a scale value in each half interval from one to seven for each subscale. There was an adequate number of items from which to make a selection at the extremes of the scale. Toward the middle of the scale, the items described situations and conditions which were not as important to good service or to poor service, and there was a smaller number of items from which a selection could be made. In the instances when only two items were present in a particular half interval, the two items were included regardless of the Q value; when only one item was present in an interval, it was included; and when no items were present in an interval, no items were included.

Forty-five items were selected from the three subscales; 23 were concerned with enjoyment; 11, with sanitation; and 11, with speed of service. These items were combined to form one evaluation instrument. The sequence of items was determined by using a random number table. Specific instructions were developed for use of the instrument.

The instrument was pre-tested to determine inter-rater reliability and retest reliability by a four member evaluation team, three women and one man all of whom had had experience in food service. The team evaluated the service in a preliminary situation to become familiar with the instrument, after which they evaluated the service in eight restaurants. The evaluations of one of the eight restaurants were later eliminated because the luncheon service consisted of buffet service rather than table service. A copy of the evaluation form is shown in Appendix C.

The responses of the raters were scored using a Likert (2, 3) technique, and the scores obtained were used in the statistical analyses. To determine the inter-rater reliability, the scores of pairs of raters across restaurants were correlated; the mean inter-rater reliability coefficient was .89, which indicated that the inter-rater agreement was high enough to be very acceptable.

In addition to evaluating the restaurants on the 45 items, the raters were asked to give the service in the restaurant an overall rating using a scale of one to 100; one indicated the very poorest service; 50, neutral service; and 100, the very best service. When the scores obtained from the 45 items were correlated with the overall ratings, a correlation coefficient of .60 was obtained. This indicated agreement between the evaluation instrument scores and the overall ratings of the raters and signified that the instrument had construct validity. The evaluation instrument, however, gave more articulated information than the overall ratings.

The items were factor analyzed by the principal components technique as a means of item analysis and to determine if the three aspects of service which were rationally included in the scale had any empirical validity. The item analysis showed that four items had very low commonalities and should be eliminated. There appeared to be one general factor and several other smaller factors whose complexity precluded interpretation. There were too few raters, and the factor analysis failed to overdetermine the item relationships.

The scores of the three subscales: customer enjoyment, sanitation, and speed of service, were inter-correlated. Analysis of the correlations tentatively suggested the presence of two dimensions, customer enjoyment, which appeared to be independent, and sanitation and speed of service, which appeared to be related, forming a second dimension. Sanitation and speed of service were not one dimension, but the relationship of the two was such that when the score for one tended to be low, the score for the other tended to be low, and when the score for one tended to be high, the score for the other tended to be high.

The same evaluation team members returned to the seven restaurants and evaluated the service during a second visit to determine retest reliability. The mean scores of the first evaluations were correlated with the mean scores of the second evaluations; the correlation coefficient was .68. This rather low reliability coefficient and the high mean inter-rater reliability correlation coefficient of .89 tends to support the hypothesis that the quality of restauranttservice varies from one time to another. This finding emphasizes that in order to determine a quantitative score for quality of service in a restaurant, the service should be evaluated more than twice, and an average score for service determined.

The dimensionality of the scale was in doubt, but the instrument was probably two dimensional. The selection and scaling of items by the technique of equal-appearing intervals appeared to be satisfactory. This conclusion was supported by the high inter-rater reliability and the correlation of scale scores and overall ratings. In was concluded, therefore, that the evaluation instrument developed to assess quality of service in table service restaurants in order to ascribe a quantitative score to the service was a valid and reliable instrument if several evaluations were made and an average score obtained.

Based upon the experience of developing, administering, and scoring the evaluation instrument; comments of the respondents; and statistical analyses; recommendations were made for improvements in the evaluation instrument by further investigation.

DEVELOPMENT OF AN INSTRUMENT TO ASSESS QUALITY OF FOOD (1)

The purpose of this study was to develop an evaluation instrument to assess the eatability and appearance of food served in different types of food service establishments so that a quantitative score could be obtained.

Food quality has been indicated as an important determinant in the success or failure of a food service establishment. Although quality has been defined by many persons who do food research and food production, a search of the literature revealed no procedure available to derive a quantitative measure for the quality of food as served at a meal in different types of food service establishments. Such a procedure is needed for research purposes to appraise the need for training to improve quality of food, and to evaluate the effect of training. Food service managers also need to assess the quality of food served as a basis for management decisions.

In developing the food quality evaluation instrument, the components of food quality to be evaluated were delineated on the basis of a definition of quality food by Ramos (4, p. 48). The instrument was designed for use in different types of food services and for a fixed or a selective menu for luncheon or dinner. The food items chosen for evaluation were three types, entree, salad, and dessert, because it was observed that these food items were most likely to be chosen for a meal by a great number of patrons.

Selection was made of quality characteristics that would be the basis for evaluating the chosen food items. Food quality studies were reviewed to determine the characteristics considered most important in subjective evaluations of food.

As a result of non-directive interviews with six persons (two professionals in the field of food, two homemakers, and two students), it became evident that many of the same characteristics appropriate to evaluate one food were also applicable to several foods. A seven point scale was selected to provide a sufficient range to reflect various levels of the characteristics scored.

Types and subtypes of foods and characteristics to be evaluated were outlined. The individual scales for evaluating the quality characteristics of each food subtype were placed in booklet form for purposes of greater objectivity in response to each scale and convenience in handling when the judging panel was on a visit to a food establishment. A scale for assessing the general acceptability of the meal was also developed. These forms and related instructions are shown in Appendix C.

A group of four professional persons who had some orientation to evaluation of food were carefully selected on the basis of responses to a food preference scale as shown in Appendix C. This scale was administered to 45 persons to obtain a group of raters having a wide range of food acceptance and similar reactions toward foods.

The food quality evaluation instrument was tested to determine inter-rater reliability and retest reliability by a group of four raters, three women and one man. The four evaluated the quality of food in a preliminary situation to learn how to use the instrument. The raters, who visited the selected food service establishments ordered the same entree, salad, and dessert.

In Test I the raters evaluated the quality of food in eight food service establishments. The scale responses were analyzed by determining coefficient correlations as a means of finding the inter-rater reliability between pairs of raters across food service establishments. The mean inter-rater reliability coefficient was .59, which indicated unsatisfactory agreement among raters. To secure a wider distribution of scores, three additional food service establishments were chosen, two in which food quality was considered by the researcher to be extremely good and one in which food quality was considered extremely poor. The mean inter-rater reliability coefficient based on 11 food service establishments was .79, an agreement among raters which is very acceptable.

For Test II the panel revisited eight of the 11 establishments visited in Test I. The mean inter-rater correlation on Test II was .90. The mean retest correlation coefficient, to determine whether the instrument was used in the same manner on two different occasions, was .75 based on raw scores and .70 based on Z scores[1]. These retest correlations indicated that the raters tended to use the instrument in much the same way on the two different visits.

In addition to evaluating the food service establishment on the basis of quality of selected food items, the raters were asked to indicate the general acceptability of the entire meal in each establishment. The mean inter-rater agreement for general acceptability scores was .84 in Test I and .82 in Test II. These correlations indicate that the general acceptability scale score could be used to derive a quantitative score for evaluation of food quality; however, since there were no specific components defined the interpretation of the general acceptability score was not clear.

The general acceptability scores for Test I and Test II were correlated with the total Z scores based on three food items and specific quality characteristics. The mean correlation coefficient for total general acceptability scale scores and total Z scores across eight food service establishments for four raters for Tests I and II was .85. This correlation indicated that either the general acceptability score or total score may be used to determine the rating of food quality for a given food establishment. If it is of interest, however, to determine quality by means of specific food items, then it is advisable to use the evaluation based on total scores for three individual items.

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[1] Food item scores and total scores were transformed to standard scores to eliminate differences in possible total scores so that food items could be weighted equally.

CONCLUSIONS AND RECOMMENDATIONS

Although there is general agreement that two criteria for evaluating the effectiveness of a quantity food service operation are the quality of service and the quality of food, there have not been satisfactory means for evaluating these two dimensions on a quantitative basis. It would be advantageous to be able to make such evaluations for assessing the need for training and the effects of training. These assessments would also be useful to food service managers.

Two studies were undertaken to develop such instruments. The methods seemed to be appropriate in order to develop reliable and valid instruments, but further trial of the instruments is needed before recommending their use as a research or as a management tool.

The instrument to assess quality of food was used in part of the training experiment described in Section III to evaluate the quality of food in the school food service programs visited when measuring on-the-job performance of trainees. In the final analysis of data, however, the food quality assessments were not incorporated. Some of the reasons for not using the data were that only one assessment was made in each school, two observers were making the assessments, and the menu was different for each assessment. Even though the two observers had previously correlated their judgment on the same meals, it was believed that the combined conditions existing in the experiment did not warrant the inclusion of the results. This experience confirmed the earlier judgment of the researchers who developed the instruments that additional testing of the instruments was needed before being used in research. There are presently plans for the further refinement and trial of these instruments in a research project.

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APPENDIX A

Sampling Procedure for Survey of Food Service Establishments[1]

In this study it was desired to sample the food services of four general types of establishments in Iowa: restaurants, hospitals, nursing homes, and custodial homes. Preliminary estimates from state records indicated that there were in Iowa 7972 restaurants, 792 nursing homes and custodial homes and 153 hospitals. A total of about 600 interviews were desired distributed approximately as follows:

400 restaurants
125 nursing homes and custodial homes
75 hospitals

It was originally planned to sample the restaurants at a rate of 1/18, the nursing homes and custodial homes at 1/6, and the hospitals at 1/2 with the expectation of obtaining approximately 443 restaurants, 132 nursing homes and custodial homes, and 76 hospitals. Finally it was desired that the sample design satisfy the following conditions:

1. That the samples all be taken from the same primaries (i.e. counties).
2. That the samples be self-weighting (i.e. that the ultimate probability of a restaurant being selected in the sample will be the same for all restaurants in the state, etc.).

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[1] Baker, Harold, Assistant Professor of Statistics, Iowa State University of Science and Technology, Ames, Iowa. Sampling procedure for survey of food service establishments. Private communication. 1967.

3. That, for reasons of efficiency, the 5 largest counties in terms of total population be selected with certainty and that the remaining primaries be selected with probability proportional to some measure of size rather than with equal probability, the measure of size being some function of the number of food service establishments.

For the 5 largest counties, these conditions were met by applying the overall rates directly to the total number of restaurants, nursing homes and custodial homes, and hospitals in these counties. In Table 47 is shown for each of these counties, the total number of each type of establishment and the number to be included in the sample. For the

Table 47. Estimated total number of food service establishments in the certainty counties, and number to be drawn in the sample

County	Restaurants: Estimated total number	Restaurants: Number to be taken	Nursing homes and custodial homes: Estimated total number	Nursing homes and custodial homes: Number to be taken	Hospitals: Estimated total number	Hospitals: Number to be taken
Black Hawk	267	15	20	3	4	2
Linn	317	18	23	4	2	1
Polk	625	35	47	8	8	4
Scott	305	17	26	4	3	2
Woodbury	291	16	25	4	5	2
Total	1805	101	141	23	22	11

remaining counties, a method which it was thought would satisfy these conditions was devised as follows:

1. For administrative purposes the counties were divided into five geographic strata.

2. For each county a measure of size, S'_{ij}, was computed consisting of a weighted sum of the number of restaurants, nursing homes and custodial homes, and hospitals in the county.

$$S'_{ij} = r_A A_{ij} + r_B B_{ij} + r_C C_{ij}$$

where A_{ij} = number of restaurants, j^{th} county, i^{th} stratum

r_A = overall restaurant sampling rate

B_{ij} = number of nursing homes and custodial homes, j^{th} county, i^{th} stratum

C_{ij} = number of hospitals, j^{th} county, i^{th} stratum, et cetera

In this case, $S'_{ij} = 1/18\ A_{ij} + 1/6\ B_{ij} + 1/2\ C_{ij}$

For convenience the S'_{ij} were transformed to

$$S_{ij} = A_{ij} + 3\ B_{ij} + 9\ C_{ij}.$$

This transformation did not affect the relative probability of any county being selected in the sample.

3. A total of 20 primaries were to be selected. These were allocated to the strata proportional to $S_{i.}$ where $S_{i.} = \sum_j S_{ij}$. Within each stratum the appropriate number of primaries was selected with probability proportional to size in terms of the

S_{ij}.

4. In each of the sample counties, the total number of interviews to be taken was allocated to the restaurant, nursing homes and custodial homes, and hospitals proportional to A_{ij}, $3B_{ij}$, and $9C_{ij}$, respectively.

This scheme had the advantage, in addition to meeting the restrictions outlined, of equalizing the total number of interviews to be taken from each sample primary. A total of 651 units was being sought of which 135 were to be taken from the certainty counties leaving 516, or approximately 26 per sample primary, to be taken from the remaining counties. For the sampling scheme to be applied, it was necessary that the measure of size meet a certain minimum; namely, that

$$S_{ij} \geq \frac{r_C}{r_A} \times \text{(total number of interviews to be taken from each primary)}$$

$$S_{ij} \geq (1/2 \ / \ 1/18)\ (26) = 234$$

Since no counties satisfied this minimum requirement, it was necessary to make some adjustments in the sample design. The minimum could be met by increasing the number of primaries drawn in the sample thus reducing the number of interviews per county and, as a result, the minimum S_{ij} needed or by combining counties into primaries sufficiently large to meet the present minimum. Neither solution was considered satisfactory. Rather it was decided to reduce the sampling rate for hospitals in the above scheme to 1/6 and to draw a supplementary sample of hospitals to adjust for this reduction. This adjustment reduced the minimum S_{ij} requirement to 72. Even so it was necessary to form 23 two-county strata in order to satisfy the minimum size requirement. Within each stratum, the appropriate number of primaries was selected with probability proportional to size in terms of S_{ij}.

Seven of the primaries selected consisted of two counties. In order to conserve field costs, the restaurant sample was selected from only one of these counties, the particular county being determined with probability proportional to the relative size of the two counties in terms of number of restaurants.

The supplemental sample of hospitals was selected at a 2/5 rate from all hospitals in the 94 noncertainty counties except for the hospitals already selected from the 20 sample primaries. In this way the desired number of hospitals was achieved and the overall rate of 1/2 maintained as follows:

Overall probability of selection = P (selected in primary sample) +
P (selected in supplemental sample/not selected in primary sample) x
P (not selected in primary sample)
$= 1/6 + 2/5 \cdot 5/6 = 3/6 = 1/2.$

Finally, in the certainty counties a total of 50 restaurants thought by the Executive Secretary of the Iowa Restaurant Association to be among the largest in terms of total volume were included in the sample with certainty. The remaining restaurants were selected at the 1/18 rate. This scheme had the advantage of improving the efficiency of the sample by reducing the impact of unusually large establishments on the variance; it had the disadvantage of necessitating special weighting for these 50 restaurants in the analysis.

The selections of the nursing homes, custodial homes, and hospitals were made from lists provided by the Iowa State Department of Health (21, 23, 24). Since these same lists were the source of the preliminary estimate of the total numbers of such establishments, the realized sample sizes, except for possible rounding errors, equalled the expected sample sizes. The restaurant sample, on the other hand, was selected from the license files of the Consumer Protection Division of the State Department of Agriculture as they existed in the Spring of 1966, whereas the preliminary estimate of the total number of restaurants was based on earlier data from the same office.

It was anticipated (correctly) that the number of licenses would exceed the preliminary estimate and, as a result, that the number of names actually drawn from the files would exceed the expected 443. There were two reasons for this, namely,

1. The presumption of an increase in the total number of restaurants since the compilation of the preliminary data.
2. The knowledge that a new law had gone into effect requiring licenses for the first time for food services in hotels (these having been covered previously by the hotel license) and for taverns not serving food (only those serving food having been licensed previously).

Taverns serving no food and those in which the food service was of minor importance were of no interest to the researchers. Since it was not known how many of the names drawn would represent such establishments, no adjustment was made in the sampling rate to compensate for the anticipated increase in the total number of names drawn. Rather, it was felt that this increase would provide a desirable margin of safety in assuring that at least 400 restaurant schedules would eventually be obtained. Actually, even this margin proved to be inadequate since the rule eventually adopted required that an establishment derive less than half its gross income from the sale of alcoholic beverages to be eligible for interview. This rule essentially eliminated all taverns from the universe of interest. At the time of the drawing, any information available in the files as to the type of establishment (e.g. restaurant, tavern, tavern and cafe, et cetera) was noted. At the completion of the draw, it was discovered that the total number of names drawn excluding those designated as "taverns" was less than the desired 400. Consequently, additional names were drawn at one-tenth the previous rate to bring the total expected to be eligible up to the desired 400. All names on the list, including those designated as taverns, were to be contacted in the field to determine for certain whether or not they qualified for interview. During this phase of the work, it was discovered that additional establishments were failing to qualify thus necessitating an additional increase in the sample at one-quarter the previous rate. As a result, the final sampling rate for the restaurants (except for the 50 selected with certainty) was

$$1/18 + 1/10 \cdot 1/18 + 1/4\ (1/18 + 1/10 \cdot 1/18) = 55/720 = 1/13.09$$

A total of 669 names were drawn in the restaurant sample including the 50 drawn with certainty. Of the remaining 619, 498 were drawn in two stages before the field work began with 121 added later when it was discovered that the number of ineligible places (i.e. those deriving more than 50 percent of their gross income from the sale of alcoholic beverages) was greater than anticipated. Altogether 243 establishments were eliminated by this criterion, and an additional 27 were found to have discontinued business without having been taken over by a successor. Interviews were obtained for 378 of the 399 eligible restaurants (including all of the 50 drawn with certainty), 17 refused, and 4 could not be contacted. Substitute interviews were obtained for 14 of the 21 noninterviews bringing the total number of restaurant interviews to 392.

From the total of 77 hospitals drawn, interviews were obtained for 74; 2 no longer existed having been merged with other hospitals and 1 refused. Later, 2 veteran's hospitals were added to the universe, of which one was interviewed, bringing the total number of interviews to 75. From the total of 130 nursing homes drawn, interviews were obtained for 123; 3 had discontinued business and 4 refused. Substitutes were not used in these samples.

Estimates based on the restaurant sample were slightly more difficult than those based on the hospital or nursing home samples since the 50 drawn with certainty required special weighting. The appropriate estimator for population totals was as follows:

$$\hat{Y} = (13) \left[\frac{349}{342}\right] \sum_{ij} y_{1ij} + \sum_{ij} y_{2ij}$$

where 13 = the reciprocal of the sampling fraction for the noncertainty restaurants

349/342 = an adjustment for the 7 restaurants not interviewed and not substituted for

y_{1ij} = characteristic of i^{th} restaurant, j^{th} stratum in the group sampled at 1/13

y_{2ij} = characteristic of i^{th} restaurant, j^{th} stratum in the certainty group

The adjustment for noninterviews assumed that those who refused or could not be contacted did not differ as a group from those who were interviewed. The same assumption formed the basis for the substitution procedure. While, in fact, this assumption in any particular case is probably not in accord with the facts, it is reasonable to assume that any bias introduced by this procedure is negligible in view of the low noninterview rate.

An estimate of the total number of restaurants in the state meeting the eligibility requirements can be obtained by assigning the value 1 to the y characteristic. Thus:

$$\hat{N} = (13)\left[\frac{349}{342}\right] \sum_{ij} 1_{1ij} + \sum_{ij} 1_{2ij}$$

$$= (13)\left[\frac{349}{342}\right] (342) + 50 = 4,587$$

Estimates of population means for the restaurant sample can be obtained by dividing the estimated population total for the characteristics by the estimated total number of eligible restaurants. That is,

$$\hat{\bar{Y}} = \frac{\hat{Y}}{\hat{N}} = \frac{1}{4587}\,\hat{Y}\ .$$

As a convenience an approximation in which the adjustment for refusals is applied to the entire sample including the 50 certainty restaurants may be used. Thus:

$$\hat{Y} = \left[\frac{349}{342}\right] \left[13 \sum_{i,j} y_{1ij} + \sum_{i,j} y_{2ij}\right]$$

Some idea of the magnitude of the bias introduced by this approximation can be obtained by comparing the estimated total number of restaurants using this formula

$$\hat{N} = \left[\frac{349}{342}\right] (13 \cdot 342 + 50) = 4588$$

with that obtained previously (4587).

For the hospitals and nursing homes, estimates of population totals can be obtained in a similar manner, that is, by multiplying the sample totals by the reciprocal of the sampling fraction and an adjustment for refusals. Thus, for hospitals

$$\hat{Y} = (2) \left[\frac{75}{74}\right] \sum_{ij} y_{ij}$$

and for nursing homes

$$\hat{Y} = (6) \left[\frac{127}{123}\right] \sum_{ij} y_{ij}.$$

Since these samples were entirely self-weighting, population means can be estimated directly by the simple sample means. That is, for both samples

$$\hat{Y} = \frac{1}{n} \sum_{ij} y_{ij} = \bar{y}$$

where n = sample size (74 and 123, respectively). However, at the time of the analysis of the data, more recent information was available to the researchers indicating that the total number of hospitals in the population was 159 rather than 153 and, similarly, that the total number of nursing homes and custodial homes was 780 rather than 792. Furthermore, the researchers desired to divide the latter into two groups, nursing homes and custodial homes, and analyze them separately. Since no such distinction had been made in the sampling, no controls had been instituted to assure that the ratio of nursing homes to custodial homes in the sample approximated the ratio in the population. For these reasons it was felt that raising the samples to the level of the revised populations would provide a better estimate of population totals than would the method outlined previously. The bias associated with adjusting for refusals is implicit in this procedure. Additional bias assumed to be negligible is introduced (into the hospital sample at least) by the fact that some units in the revised population had no chance of being selected in the sample. The modified estimator used for estimating population totals was, then,

$$\hat{Y} = \frac{N}{n} \sum_{ij} y_{ij} = N\bar{y}$$

where $\bar{y}$ = the simple sample mean

N = revised total number of institutions in population (159 hospitals, 436 nursing homes, and 343 custodial homes)

n = sample size (75 hospitals, 65 nursing homes, 58 custodial homes)

April 1966

INSTITUTION MANAGEMENT DEPARTMENT AND STATISTICAL LABORATORY

IOWA STATE UNIVERSITY

SURVEY OF FOOD SERVICE ESTABLISHMENTS IN IOWA

Interviewer________________________ County________________________

Name of establishment____

		Date	Time
Address______________________	First Call	________	________
City_________________________	Second Call	________	________
Phone________________________	Third Call	________	________

Name of food service manager_______________________________________

Name of owner of facilities____

Address________________________ City________________________

1a. Is the food service establishment within an urbanized area?

yes_____no_____

(If Yes to 1a, answer)

1b. What is the name of the central city of the urbanized area?

____

1c. What is the distance to the center of the central city of the urbanized area?

____

2. Is the food service establishment within incorporated city limits?

yes_____no_____

3. (If Yes to 2, answer a) (If No to 2, answer b)

a. What is the size of the town or city?		b. What is the size of the nearest town or city?
____	0-999	____
____	1,000-2,499	____
____	2,500-4,999	____
____	5,000-9,999	____
____	10,000-24,999	____
____	25,000-49,999	____
____	50,000-99,999	____
____	100,000 or more	____

4. What is the general location of the establishment?

(0) ____central business district
(1) ____shopping center
(2) ____industrial
(3) ____highway
(4) ____other, specify______________________________________

5. Is the food service establishment part of another business?

yes_____no_____If Yes, specify:

(0) ____department store
(1) ____drug store
(2) ____variety store
(3) ____industrial plant
(4) ____hotel
(5) ____motel
(6) ____other, specify____________________________

---

6. WHAT IS YOUR POSITION IN THE FOOD SERVICE ESTABLISHMENT?

(0) ____owner-manager
(1) ____manager

7a. DOES THE OWNER OF THESE FACILITIES OWN THE FACILITIES IN OTHER FOOD SERVICE ESTABLISHMENTS?

yes_____no_____

(If Yes to 7a, ask:)

7b. HOW MANY ESTABLISHMENTS IN IOWA?_____.
7c. HOW MANY ESTABLISHMENTS OUT OF IOWA?_____.

8a. IS THE FOOD SERVICE OPERATED BY A CONTRACT FOOD SERVICE COMPANY?

yes_____no_____

8b. (If Yes to 8a, ask:) WHAT IS THE NAME OF THIS COMPANY?

____

9. IS THIS FOOD SERVICE PART OF A FRANCHISE__________OR CHAIN__________ NEITHER__________? (Check twice if both apply)

10. IS THIS FOOD SERVICE OPEN TO THE PUBLIC__________OR PRIVATE__________? (Check twice if both apply)

11a. DO YOU SERVE BEER? yes_____no_____

11b. DO YOU SERVE OTHER ALCOHOLIC BEVERAGES? yes_____no_____

12. (If Yes to either 11a or 11b, ask:) WHAT PERCENT OF THE GROSS INCOME IS DERIVED FROM THE SALE OF BEER OR OTHER ALCOHOLIC BEVERAGES?__________%.

(If % above is more than 50%, terminate the interview now. Thank the respondent for his time.)

13a. AS MANAGER, WHAT ARE YOUR MAJOR RESPONSIBILITIES? (Check responsibilities in column a for specific duties and write in other statements __exactly__ as stated. Do not read alternatives)

		b.			
a.		Yes	No	N.A.	14.
	(0) accounting				
	(1) keeping records				
	(2) cashiering				
	(3) cooking				
	(4) hosting				
	(5) menu planning				
	(6) purchasing				
	(7) employing workers				
	(8) supervising workers				
	(9) training workers				
	(10) discharging workers				
	(11) waiting tables				
	(12) working at counter				

13b. WHICH OF THE FOLLOWING SPECIFIC DUTIES ARE PART OF YOUR REGULAR WORK? (Read those specific duties in 13a which were not mentioned and check Yes or No or Not Applicable in column b above.)

14a. WHICH DUTY TAKES UP MOST OF YOUR TIME? (Write "1" in column 14 above.)

14b. WHICH DUTY IS THE NEXT MOST TIME CONSUMING? (Write "2" in column 14 above.)

14c. WHICH DUTY IS THE NEXT MOST TIME CONSUMING? (Write "3" in column 14 above.)

15. HOW LONG HAS A FOOD SERVICE ESTABLISHMENT BEEN IN THIS LOCATION?

(0) ____less than 1 year
(1) ____1-4 years
(2) ____5-9 years
(3) ____over 10 years, specify________________________________

16. HOW LONG HAVE YOU BEEN MANAGING THIS FOOD SERVICE?

(0) ____less than 1 year
(1) ____1-4 years
(2) ____5-9 years
(3) ____over 10 years, specify________________________________

17a. WHICH OF THE FOLLOWING TYPES OF SERVICE DO YOU PROVIDE? (Read alternatives)

	YES	NO
(0) Table or booth		
(1) Buffet		
(2) Counter		
(3) Cafeteria		
(4) Carry-out		
(5) Car service		
(6) Window service		
(7) Vending		

(8) Other, specify____________________________________

17b. (If Yes to more than one type of service, ask:) WHICH TYPE OF SERVICE CONSTITUTES MORE THAN HALF OF YOUR BUSINESS? (Circle response.)

17c. (If Yes to buffet, ask:) HOW OFTEN DO YOU PROVIDE A BUFFET SERVICE?

____

17d. (If Yes to buffet, ask:) FOR WHAT MEALS DO YOU PROVIDE A BUFFET SERVICE?

(0) _____Breakfast
(1) _____Lunch
(2) _____Dinner

18. HOW MANY MAY BE SEATED IN YOUR ESTABLISHMENT AT ONE TIME?___________.

19. WHAT IS YOUR MOST FREQUENTLY CHOSEN LUNCH COMBINATION AND ITS PRICE (dinner, if lunch is not served)?

ITEM	PRICE
TOTAL	

Specify whether lunch or dinner menu____________

20. WHAT HOURS IS THE ESTABLISHMENT OPEN FOR BUSINESS?

DAYS	HOURS
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

21. WHICH OF THESE HOLIDAYS IS THE ESTABLISHMENT CLOSED? (Read alternatives)

	YES	NO
(0) New years day		
(1) Memorial day		
(2) Independence day		
(3) Labor day		
(4) Thanksgiving day		
(5) Christmas day		

(6) Other, specify________________________________

22a. DOES THE ESTABLISHMENT CLOSE AT ANY OTHER TIME DURING THE YEAR?

yes______no______

(If Yes to 22a, ask:)

22b. FOR WHAT LENGTH OF TIME DO YOU CLOSE?

(0) ____1 week
(1) ____2 weeks
(2) ____3 weeks
(3) ____4 weeks
(4) ____Other, specify______________________________

22c. DURING WHAT SEASON DO YOU CLOSE?

(0) ____Fall (September, October, November)
(1) ____Winter (December, January, February)
(2) ____Spring (March, April, May)
(3) ____Summer (June, July, August)

6.
I.M.

23a. NOW WE WOULD LIKE TO FIND OUT SOME INFORMATION ABOUT YOUR EMPLOYEES. FIRST, WHAT ARE THE JOBS IN YOUR FOOD SERVICE?

MANAGEMENT AND SUPERVISORY PERSONNEL

FULL-TIME									PART-TIME								
Number of Job Title	Number of Persons	Sex	Age Range	Number of Terminations Last 3 Months	Present Number of Unfilled Positions	Wages		Check if Tips	Number of Job Title	Number of Persons	Sex	Age Range	Number of Terminations Last 3 Months	Number of Unfilled Positions	Wages		Check if Tips
						$ Start	$ High								$ Start	$ High	
						/	/								/	/	
						/	/								/	/	
						/	/								/	/	
						/	/								/	/	
						/	/								/	/	

TOTAL______(1)

TOTAL______(3)

NON-SUPERVISORY PERSONNEL

FULL-TIME									PART-TIME								
						/	/								/	/	
						/	/								/	/	
						/	/								/	/	
						/	/								/	/	
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						/	/								/	/	
						/	/								/	/	
						/	/								/	/	

TOTAL______(2)

TOTAL______(4)

7.
I.M.

23b. IS _____(1) YOUR USUAL NUMBER OF FULL-TIME SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF FULL-TIME SUPERVISORY EMPLOYEES? ___________

23c. IS _____(2) YOUR USUAL NUMBER OF FULL-TIME NON-SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF FULL-TIME NON-SUPERVISORY EMPLOYEES? ___________

23d. (Total usual number of full-time employees) ___________

23e. IS _____(3) YOUR USUAL NUMBER OF PART-TIME SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF PART-TIME SUPERVISORY EMPLOYEES? ___________

23f. IS _____(4) YOUR USUAL NUMBER OF PART-TIME NON-SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF PART-TIME NON-SUPERVISORY EMPLOYEES? ___________

23g. (Total usual number of part-time employees) ___________

24a. YOU USUALLY HAVE ____* FULL-TIME EMPLOYEES, HOW MANY FULL-TIME EMPLOYEES DO YOU EXPECT TO EMPLOY AT THIS TIME NEXT YEAR? _______.
(*get total number of full-time employees from 23d.)

24b. YOU USUALLY HAVE ____* PART-TIME EMPLOYEES, HOW MANY PART-TIME EMPLOYEES DO YOU EXPECT TO EMPLOY AT THIS TIME NEXT YEAR? _______.
(*get total number of part-time employees from 23g.)

25a. HOW MANY HOURS PER WEEK DO YOU USUALLY WORK?________________

25b. HOW MANY DAYS PER WEEK DO YOU USUALLY WORK?_________________

26. HOW MANY HOURS PER WEEK DOES AN EMPLOYEE USUALLY WORK?_______

	FULL-TIME	PART-TIME
Management and supervisory other than yourself		
Non-supervisory		

27. HOW MANY DAYS PER WEEK DOES AN EMPLOYEE USUALLY WORK?

	FULL-TIME	PART-TIME
Management and supervisory other than yourself		
Non-supervisory		

9.
I.M.

BENEFITS	28. MANAGEMENT AND SUPERVISORY PERSONNEL	29. NON-SUPERVISORY PERSONNEL
HOLIDAYS	a. ARE PAID HOLIDAYS GIVEN (or another paid day in exchange)? yes______no______ b. (If Yes to a, ask:) WHAT ARE THOSE HOLIDAYS? ____New years day ____Thanksgiving day ____Memorial day ____Christmas day ____Independence day ____Other, specify________________ ____Labor day	a. ARE PAID HOLIDAYS GIVEN (or another paid day in exchange)? yes______no______ b. (If Yes to a, ask:) WHAT ARE THOSE HOLIDAYS? ____New years day ____Thanksgiving day ____Memorial day ____Christmas day ____Independence day ____Other, specify________________ ____Labor day
VACATIONS	c. IS A PAID VACATION GIVEN? yes_____no_____ (If Yes to c, ask:) d. WHAT PERIOD OF WORK IS NECESSARY BEFORE A PAID VACATION IS GIVEN?________________ e. WHAT IS THE LENGTH OF THE FIRST PAID VACATION?__________ f. WHAT PERIOD OF WORK IS NECESSARY TO INCREASE THE LENGTH OF THE PAID VACATION?________________ g. WHAT IS THE MAXIMUM LENGTH OF PAID VACATION?__________	c. IS A PAID VACATION GIVEN? yes_____no_____ (If Yes to c, ask:) d. WHAT PERIOD OF WORK IS NECESSARY BEFORE A PAID VACATION IS GIVEN?________________ e. WHAT IS THE LENGTH OF THE FIRST PAID VACATION?__________ f. WHAT PERIOD OF WORK IS NECESSARY TO INCREASE THE LENGTH OF THE PAID VACATION?________________ g. WHAT IS THE MAXIMUM LENGTH OF PAID VACATION?__________
SICK LEAVE DAYS	h. ARE SICK LEAVE DAYS GIVEN WITH PAY? yes_____no_____ (If Yes to h, ask:) i. HOW MANY SICK LEAVE DAYS ARE GIVEN PER YEAR?__________ j. ARE SICK LEAVE DAYS CUMULATIVE? yes_____no_____	h. ARE SICK LEAVE DAYS GIVEN WITH PAY? yes_____no_____ (If Yes to h, ask:) i. HOW MANY SICK LEAVE DAYS ARE GIVEN PER YEAR?__________ j. ARE SICK LEAVE DAYS CUMULATIVE? yes_____no_____
MEALS	k. ARE MEALS PROVIDED WITHOUT CHARGE DURING PERIODS WHEN ON DUTY? yes_____no_____	k. ARE MEALS PROVIDED WITHOUT CHARGE DURING PERIODS WHEN ON DUTY? yes_____no_____
UNIFORMS	l. ARE UNIFORMS FURNISHED BY THE FOOD SERVICE? yes_____no_____ m. ARE UNIFORMS LAUNDERED BY THE FOOD SERVICE? yes_____no_____	l. ARE UNIFORMS FURNISHED BY THE FOOD SERVICE? yes_____no_____ m. ARE UNIFORMS LAUNDERED BY THE FOOD SERVICE? yes_____no_____

30. IS THERE ANY PLAN FOR ROTATION OF JOBS AMONG WORKERS? yes____ no____
(If Yes, ask the respondent to explain the rotation.)

31. DO YOU PROVIDE TRAINING FOR YOUR EMPLOYEES? yes____ no____
(If No, skip to 35a.)

32a. SPECIFICALLY, HOW DID YOU TRAIN THE LAST HEAD COOK THAT YOU HIRED?
(If No Head Cook, skip to 33a.)

32b. HOW LONG WAS THE TRAINING PERIOD?____________________

32c. WHO DID THE TRAINING?____________________

33a. SPECIFICALLY, HOW DID YOU TRAIN THE LAST DISH MACHINE OPERATOR THAT YOU HIRED? (If No Dish Machine Operator, skip to 34a.)

33b. HOW LONG WAS THE TRAINING PERIOD?____________________

33c. WHO DID THE TRAINING?____________________

34a. SPECIFICALLY, HOW DID YOU TRAIN THE LAST WAITRESS THAT YOU HIRED?
(If No Waitress, skip to 35a.)

34b. HOW LONG WAS THE TRAINING PERIOD?____________________

34c. WHO DID THE TRAINING?____________________

35a. WHAT CHARACTERISTICS AND SKILLS DO YOU THINK A HEAD COOK SHOULD HAVE IN ORDER TO WORK EFFECTIVELY? (If No Head Cook, skip to 36a.)

0. ____________________
1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________

35b. WHICH IS THE MOST IMPORTANT CHARACTERISTIC OR SKILL? (Circle response number.)

36a. WHAT CHARACTERISTICS AND SKILLS DO YOU THINK A DISH MACHINE OPERATOR SHOULD HAVE IN ORDER TO WORK EFFECTIVELY? (If No Dish Machine Operator, skip to 37a.)

0. ____________________
1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________

36b. WHICH IS THE MOST IMPORTANT CHARACTERISTIC OR SKILL? (Circle response number.)

37a. WHAT CHARACTERISTICS AND SKILLS DO YOU THINK A WAITRESS SHOULD HAVE IN ORDER TO WORK EFFECTIVELY? (If No Waitress, skip to 38.)

0.____

1.____

2.____

3.____

4.____

5.____

6.____

7.____

8.____

9.____

37b. WHICH IS THE MOST IMPORTANT CHARACTERISTIC OR SKILL? (Circle response number.)

38. (If more than one management and supervisory employee, ask:) SINCE YOU HAVE HAD THIS POSITION, HAVE YOU EVER HIRED ANY MANAGEMENT AND SUPERVISORY PERSONNEL? yes____no____

(If Yes to 38, ask:)

a. WHICH OF THESE SOURCES DO YOU USE IN HIRING NEW MANAGEMENT AND SUPERVISORY PERSONNEL? (Read alternatives. Check yes or no.)

b. WHAT SOURCE DO YOU BELIEVE PROVIDES YOU WITH YOUR BEST MANAGEMENT AND SUPERVISORY PERSONNEL. (Circle response.)

SOURCES	MANAGEMENT AND SUPERVISORY		NON-SUPERVISORY	
	YES	NO	YES	NO
Public employment office				
Private employment agency				
Unsolicited application				
Local newspaper advertising				
Employee recommendations				
High schools				
Colleges				
Trade schools				
Sign in the window				

Other, specify______________________________

39a. WHICH OF THESE SOURCES DO YOU USE IN HIRING NEW NON-SUPERVISORY EMPLOYEES? (Read alternatives. Check Yes or No above.)

39b. WHAT SOURCE DO YOU BELIEVE PROVIDES YOU WITH YOUR BEST NON-SUPERVISORY EMPLOYEES? (Circle response above.)

40. WHAT WAS YOUR SALES VOLUME DURING 1965? PLEASE READ THIS CARD AND INDICATE ONLY BY LETTER THE RANGE OF YOUR SALES VOLUME. (Show the respondent Card II and check the response.)

(a) _____ less than $5,000
(b) _____ $5,000 - $24,999
(c) _____ $25,000 - $49,999
(d) _____ $50,000 - $99,999
(e) _____ $100,000 - $199,999
(f) _____ $200,000 - or more

41. WHAT WAS YOUR SALES VOLUME DURING EACH MONTH OF 1965?

MONTH	SALES VOLUME
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	
TOTAL	

(The total sales volume must agree with the amount indicated in 40.)

42. HOW MANY YEARS OF SCHOOL HAVE YOU COMPLETED? (Circle response)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Other, specify_______________

43. WHAT IS YOUR PREVIOUS TRAINING AND EXPERIENCES IN FOOD SERVICE? (If number of school years from question 42 is 13 or over and they do not mention their major or area of specialization in school after high school, ask for it.)

44. WHAT DO YOU CONSIDER YOUR MAJOR MANAGERIAL PROBLEMS?

45. IF YOU USE PRINTED MENUS, MAY I HAVE A COPY? PLEASE INCLUDE YOUR DAILY SPECIAL SHEET AND OUTSIDE COVER.

INTERVIEWER'S EVALUATION

Please answer the following questions immediately after completing the interview and returning to your car.

1. Do you have any general comments about this food service establishment or the interview which you think would be helpful in interpreting and evaluating the data collected?

2. Did the respondent consult any of the establishment's records to help him in answering the questions? yes____no____

3. Do you believe that the information obtained in the interview is accurate? yes____no____

4. Was the respondent cooperative? yes____no____

5. Do you believe that the respondent would cooperate by participating in a future study? yes____no____

CARD 1 I.M.

AGE RANGES

1. Under 16
2. 16 - 24
3. 25 - 34
4. 35 - 44
5. 45 - 54
6. 55 - 64
7. 65 - 74
8. 75 and over

4

CARD II I.M.

SALES VOLUME

a. less than $5,000

b. $5,000 - $24,999

c. $25,000 - $49,999

d. $50,000 - $99,999

e. $100,000 - $199,999

f. $200,000 or more

JOB TITLES

Insert one of the following numbers for each job that you are describing on page 6. If any employee fills two or more jobs, insert those numbers that apply and circle the number of the job which occupies the majority of his time.

Management and Supervisory Personnel

0. Cook manager or chef
1. Dietitian
4. Dining room manager
6. Food service manager **(Production and Service)**
7. Food service supervisor

8. Food Production Supervisor

Non-supervisory Personnel

10. Bartender
11. Baker
12. Busgirl (busboy)
13. Butcher
14. Cashier
15. Checker, food
16. Cook, assistant
17. Cook, head
18. Cook, short order
19. Counter attendant
20. Dishwasher
21. Fountain man
22. Hostess (host)
23. Kitchen helper
24. Porter
25. Receiving clerk-storeroom man
26. Waitress (waiter)

30. Secretary or Clerk

Insert one or more of the following numbers to describe the age range of the employee(s) in each job. Show the respondent Card I.

1. Under 16
2. 16 - 24
3. 25 - 34
4. 35 - 44
5. 45 - 54
6. 55 - 64
7. 65 - 74
8. 75 and over

INSTITUTION MANAGEMENT DEPARTMENT

and

STATISTICAL LABORATORY

IOWA STATE UNIVERSITY

INTERVIEWER INSTRUCTIONS

SURVEY OF FOOD SERVICE ESTABLISHMENTS IN IOWA

April, 1966

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YOUR JOB AND RESPONSIBILITIES

You are a representative of the Statistical Laboratory of Iowa State University for the duration of the survey. One of your responsibilities is to maintain good will from the beginning to the end of the interview.

The success of this survey depends upon your work in gathering the information. Many hours have been spent in preparing the interview schedule and instructions for each question. No set of instructions will cover every situation in the field, and we are depending on your common sense to deal with irregular cases. In all cases of doubt, list the details of the case on the interview schedule. However, the instructions provided in this manual should aid you in most phases of your work. Keep it with you and add notes as new situations arise and are solved.

All of our experience and all we have learned about making interview surveys have demonstrated that in the final showdown, the most important person connected with the survey is the interviewer. We can draw a good sample, design a good interview schedule, and make a highly competent analysis, but if the interviewer has not done her job well, the results of the survey will not be good. This is not to minimize the importance of the other phases of an interview survey, but so much depends on the skill with which the interviewer does her job that no effort should be spared to perfect the techniques and procedures of interviewing so that the results of the time and effort spent will be fully worthwhile.

OBJECTIVES OF THE SURVEY

The major objectives of this survey are:

1. To determine characteristics of the food service industry in Iowa.
2. To determine characteristics of present employment in the food service industry.
3. To determine characteristics of employee training within food service establishments.
4. To determine present employers' concepts of characteristics and skills of workers necessary for working effectively in specific jobs.
5. To determine the future needs for food service workers.

RULES FOR CALL BACKS AND SUBSTITUTIONS

The first two pages of the interview schedule for food service establishments are to be completed for each name on your list. If the food service establishment is then determined to be eligible (more than 50 per cent of their gross income from food and beverage sales is from the sale of food) the interview schedule is to be completed with the owner-manager or manager of the food establishment.

Three call backs are to be made at each establishment on your list, making an effort on the first call to make an appointment for a future time or determine when the best time would be to call back if an interview cannot be made on the first contact. If an interview cannot be obtained from this establishment, you may substitute from an attached list. You will be allowed only the number of substitutes given on each county sheet. You cannot subsitute from one county to another.

DEFINITIONS OF TERMS FOR THE INTERVIEW SCHEDULE

The definitions are numbered to correspond to the questions on the interview schedule.

1. URBANIZED AREA

An urbanized area contains at least one city of 50,000 inhabitants or more in 1960, as well as the surrounding closely settled incorporated places and unincorporated areas that meet the criteria listed below. An urbanized area may be thought of as divided into the central city or cities, and the remainder of the area, known as the urban fringe.

In addition to its central city or cities, an urbanized area also contains the following types of contiguous areas, which together constitute its urban fringe:

1. Incorporated places with 2500 inhabitants or more.
2. Incorporated places with less than 2500 inhabitants provided each has a closely settled area of 100 housing units or more.
3. Districts in unincorporated territory with a population density of 1,000 inhabitants or more per square mile.
4. Other districts in unincorporated territory with lower population density provided that they serve one of the following purposes:
   a. To eliminate enclaves
   b. To close indentations in the urbanized areas of one mile or less across the open end, and
   c. To link outlying districts of qualifying density that were no more than 1½ miles from the main body of the urbanized area.

The central cities of urbanized areas in Iowa are: Cedar Rapids, Council Bluffs, Davenport, Des Moines, Dubuque, Sioux City, and Waterloo.

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4. (0) CENTRAL BUSINESS DISTRICT

An area of very high land valuation, an area characterized by a high concentration of retail businesses, offices, theaters, hotels, and service businesses, and an area of high traffic flow. This is the main or original business district of the town or city.

4. (1) SHOPPING CENTER

An area of retail businesses which may also contain offices, theaters, and service businesses. It is characterized by surrounding free parking areas for customers. Usually it is situated away from the central business district of the town or city.

4. (2) INDUSTRIAL

An area characterized by a high concentration of manufacturing industries.

4. (3) HIGHWAY

A main road or thoroughfare which often has service businesses contiguous with it and does not meet the requirements of the above locations listed for question 4.

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5. (0) DEPARTMENT STORE

Establishments normally employing 25 people or more and engaged in selling some items in each of the following lines of merchandise: 1) furniture, home furnishings, appliances, radio, and television sets; 2) a general line of apparel for the family; and 3) household linens and dry goods.

5. (1) DRUG STORE

Establishments which fill and sell prescriptions. These establishments also sell drugs and proprietary medicines and other health and first-aid products. Usually these establishments sell a variety of other merchandise, such as cosmetics, toiletries, candy, tobacco products, magazines, toys, etc.

5. (2) VARIETY STORE

Establishments primarily selling a variety of merchandise in the low and popular price ranges, such as stationery, gift items, women's accessories, toilet articles, light hardware, toys, housewares, and confectionery. These establishments frequently are known as "5 and 10 cent" stores and "5 cents to a dollar" stores, although merchandise is usually sold outside these price ranges.

8. (3) INDUSTRIAL PLANT

A business in which manufacturing of goods takes place.

8. (4) HOTEL

Commercial establishment primarily engaged in providing lodging, or lodging and meals, for the general public.

8. (5) MOTEL

A roadside hotel for motorists.

8a. (1) CONTRACT FOOD SERVICE

An outside concern which by a contractual agreement operates and manages a food service for another organization.

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9. (1) FRANCHISE

Involves a contractual agreement whereby the company owning the franchise gives permission to a local investor to use the company's architectural design, sign, standardized furnishings, and rather specific operating methods. (i.e. Henry's Drive-Ins)

9. (2) CHAIN

Involves retail businesses which are the same general kind of business under common ownership and generally similar policies. (i.e. Bishop Buffets, Inc.)

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10. (1) PUBLIC

Those establishments which are concerned with serving the population as a whole.

10. (2) PRIVATE

Those establishments which are concerned with serving a restricted population.

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17. (0) TABLE OR BOOTH SERVICE

Food is carried to the table or booth by waiters or waitresses.

17. (1) BUFFET SERVICE

A table is set up with various dishes of meat, poultry, fish, cold sweets or pastries, and arranged in a decorative manner. Usually the guests help themselves to the food.

17. (2) COUNTER SERVICE

Guests are seated on stools at a long, narrow table or counter. Usually the food is served and cleared by an attendant from the back of the counter. Food may be prepared behind the counter or in an adjacent kitchen.

17. (3) CAFETERIA SERVICE

With the exception of hot foods which are served from hot food tables by counter attendants, all food items are picked up or dispensed by the patrons themselves. Food items are usually prepared in advance and are ready for service, but some items may be prepared to order. Emphasis is placed upon display. Foods are displayed so as to appeal to the patron and to emphasize the wide range of choice offered.

17. (4) CARRY-OUT

Food items such as sandwiches, soups, desserts or beverages are packaged in paper or plastic to be taken by the patron for consumption elsewhere.

17. (5) CAR SERVICE

Drive-ins where patrons place their orders and are served in their cars.

17. (6) WINDOW SERVICE

Patrons place their orders and receive them at a window which may be located either inside or outside of the establishment.

17. (7) VENDING

This item refers to food service from coin-operated vending machines which dispense hot or cold sandwiches, hot soups, salads, pastries, puddings, desserts, fruits, or beverages. The use of coin-operated machines for vending candy, cigarettes, and non-food items does not apply.

23. MANAGEMENT AND SUPERVISORY PERSONNEL

Those who have authority to hire, transfer, suspend, lay-off, recall, promote, discharge, assign, reward, or discipline other employees, and responsibility to direct them in their work. The exercise of this authority and responsibility is not merely of a routine nature, but requires the use of independent judgment. Management and supervisory personnel are concerned with planning for the efficient and economical operation of the establishment.

23. NON-SUPERVISORY PERSONNEL

Those workers who do not have supervisory authority and responsibility.

23. (0) COOK MANAGER OR CHEF

Supervises and usually assists other cooks in the preparation and cooking of meats, sauces, vegetables, and other foods. May supervise the activities of all kitchen personnel; may hire and discharge kitchen personnel; may plan menus, estimate consumption, and order food stuffs.

23. (1) DIETITIAN

A member of the American Dietetic Association, or one who is currently qualifying for membership; a professionally educated person who has a baccalaureate degree and advanced education or qualifying experience in nutrition and/or management and is proficient in the application of these sciences to feeding individuals in groups.

23. (4) DINING ROOM MANAGER

Supervises the activities of waiters and busboys to insure courteous and rapid service. May interview, hire, and discharge hostesses, waitresses, and busboys. May maintain supplies and equipment. May greet and seat customers.

23. (6) FOOD SERVICE MANAGER

A person who may or may not hold a baccalaureate degree, who has had experience in food service administration, becoming proficient in food service management, and who is designated head of the food service department.

23. (7) FOOD SERVICE SUPERVISOR

A person who provides direct supervision of food service workers and is responsible to another food service management or supervisory person.

23. (10) BARTENDER

Mixes and serves alcoholic drinks, proportioning ingredients according to formulas. May collect money due for drinks. Orders supplies. Replaces empty beer kegs with full ones. Washes glasses, bar, and equipment. Arranges bottled goods and glasses about bar to make an attractive display.

23. (11) BAKER

Mixes ingredients for and bakes bread, rolls, muffins, biscuits, cakes, cookies, pies, and other pastries or desserts.

23. (12) BUSBOY OR BUSGIRL

Takes away courses and soiled dishes to kitchen, replaces soiled table linen with clean linen, replenishes butter supply of guests, fills water bottles and glasses, and brings clean silverware to dining room. May do other tasks such as washing dishes, setting tables, cleaning and polishing silverware, and preparing coffee.

23. (13) BUTCHER

Trims, bones, and cuts raw meats into portions for cooking, making individual cuts of meat from a specified portion of the carcass. May also be poultry and fish butcher.

23. (14) CASHIER

Receives money from customers or waiters and waitresses in payment of food checks; makes necessary change ; may balance cash received against cash register or other record of receipts.

23. (15) CHECKER, FOOD

Checks quantities of food on waiters' or customers' trays and enters amount due on check, or in cash register, or otherwise tabulates the price of each individual's order or portion of food.

23. (16) COOK, ASSISTANT

Works under the immediate supervision of a head cook or manager in the preparation of food, may dish food, and otherwise relieves cooks of routine duties. Workers in this classification are frequently designated according to their assigned position, such as roast cook, vegetable cook, etc.

23. (17) COOK, HEAD

Supervises and usually assists other cooks in the preparation and cooking of meats, sauces, vegetables, and other foods. May supervise the activities of all kitchen personnel; may plan menus, estimate consumption, and order food stuffs.

23. (18) COOK, SHORT ORDER

Cooks to order steaks, chops, cutlets, eggs, and other quickly prepared foods. May serve to waiters or to customers over counter. May also serve roasts, stews, soups, sauces, or vegetables from a steamtable.

23. (19) COUNTER ATTENDANT

Serves food from a steamtable or counter to patrons or waiters and waitresses; cleans counters, steamtables, and other equipment. May perform various unskilled tasks in the preparation of food, such as slicing meats, cheese, bread and butter; preparing toast, hot cakes, waffles, eggs, sandwiches, or beverages; and preparing salads.

23. (20) DISHWASHER

Washes dishes, glassware, pots, and pans [illegible] hand or machine. May, in addition, assist with simple tasks as cleaning and preparing vegetables and handling supplies.

23. (21) FOUNTAIN MAN

Prepares and serves all types of soft drinks and ice cream dishes. May make coffee and prepare and serve sandwiches or other foods. Cleans fountain and polishes metal work on fountain. May accept payment from customer and make change.

23. (22) HOSTESS OR HOST

Greets and seats customers. May direct the activities of waitresses and busboys to insure courteous and rapid service. May maintain supplies and equipment.

23. (23) KITCHEN HELPER

Performs routine cooking duties to assist cooks and assistant cooks. Work includes such tasks as preparing vegetables for cooking by cleaning, chopping, cutting, or grinding them; watching and stirring food that is cooking; and making toast and beverages.

23. (24) PORTER

Performs one or more of a variety of unskilled tasks such as cleaning and scrubbing kitchen tables and floor; removing garbage and soiled linens; replenishing supplies of crushed ice, clean linens, and other materials and supplies.

23. (25) RECEIVING CLERK - STOREROOM MAN

May order, receive, inspect, store, weigh or issue food. Takes periodic inventories or keeps a perpetual inventory of stock on hand, and prepares necessary reports.

23. (26) WAITRESS OR WAITER

Serves food and/or beverage to patrons; in addition, usually takes orders from patron and makes out check. May set table (or counter) with linen and silverware and may take payment from patron.

INTRODUCTORY REMARKS

There are three parts to the introduction - stating your name, your connection with Iowa State University, and telling the purpose of your visit. You will have a letter of introduction from the Statistical Laboratory which you may use in case there seems to be some doubt in the respondent's mind about whom you represent.

The following is a suggested introduction:

> "I am ______________________________. I am employed by Iowa State University at Ames where they are conducting research regarding food service establishments in Iowa. The purpose is to determine bases for food service education programs. To get current information about the food service industry, we are interviewing a random sample of food service managers all over the state. We would appreciate your cooperation."

GENERAL COMMENTS

Assure the manager that all information obtained will be strictly confidential and will be coded when the interview schedules are analyzed. Data from the entire survey may be published, but no information will ever be published or revealed in connection with the name of the establishment.

You will encounter some cases where it will seem strange to ask a question as it is written. The reason for this is that the interview schedule was designed to cover all types of food service establishments - from a drive-in to a supper club. It is very important that you ask all questions exactly as they are written.

To facilitate using the interview schedule, all information to be read to the respondent has been printed in continuous capital letters. Information to assist you has been printed in small letters and enclosed in parentheses.

DETAILED INSTRUCTIONS FOR THE INTERVIEW SCHEDULE

HEADING:

Record the complete name of the establishment, its address, and telephone number. Record the name of the manager of the food service. If the food service is not owned by the manager, record the name of the owner and his address. Owner refers to the person who owns the facilities (equipment and furnishings); he may or may not own the building in which the food service is located. It is very important that we have the name and complete address of the owner in the event that we cannot obtain all of the information from the manager and need to contact the owner.

SCHEDULE:

Items 1 - 3 are to be answered by the interviewer:

1a. The definition for URBANIZED AREA will help you in answering this item. Check Yes or No for your response.

1b. If the food service establishment is located within an urbanized area (Yes to 1a), record the name of the central city of the urbanized area. These cities are listed in the definition for urbanized area.

1c. If the food service establishment is located within an urbanized area (Yes to 1a), record the distance from the food service establishment to the central city of the urbanized area. We are interested in the distance to the center of the city, rather than to the city limits or perimeter of the city. You may ask the respondent for help in answering this item.

2. If necessary you may ask the respondent if the food service establishment is within the incorporated city limits. Check Yes or No for your response.

3. If the food service establishment is within incorporated city limits (Yes to 2), answer "a" of this item. If the food service establishment is not within incorporated city limits (No to 2), answer "b" of this item.

   a. Check the size of the town or city in which the food service is located. You may ask the respondent for help in answering this item.

   b. Check the size of the nearest town or city. You may ask the respondent for help in answering this item.

4. The purpose of this item is to determine in what type of area the food service establishment is located. Check your response using the definitions for CENTRAL BUSINESS DISTRICT, SHOPPING CENTER, INDUSTRIAL, and HIGHWAY to help you in answering this item.

5. Check Yes or No indicating whether or not the food service establishment is part of another business. If it is part of another business, check the types of business in which the food service is located. The definitions for DEPARTMENT STORE, DRUG STORE, VARIETY STORE, INDUSTRIAL PLANT, HOTEL, and MOTEL will help you in answering this item.

Items 6 - 43 are to be answered by the respondent!

6. This question does not need to be asked if you can answer it after obtaining the name of the owner and manager in the heading. You must interview either the owner-manager or manager. If you are not doing this, arrange a time for a return visit.

7a. Read the item as written and check Yes or No. We want to know if there are other food service establishments under the same ownership; they may be of a different type or under different management.

7b. If there are other food service establishments under the same ownership (Yes to 7a), read this item as written. Record the number of these establishments that are located in Iowa.

7c. If there are other food service establishments under the same ownership (Yes to 7a), read this item as written. Record the number of these establishments that are located out of Iowa.

8a. Read this item as written and check Yes or No. We are interested in knowing whether this food service is operated by a contract food service company. The definition for CONTRACT FOOD SERVICE COMPANY will help you in answering this item.

8b. If the food service is operated by a contract food service company (Yes to 8a), read this item as written. Record the complete name of the company.

9. Read the item as written and check the response. If the food service establishment is part of both a franchise and a chain, check both responses. The definitions for FRANCHISE and CHAIN will help you in answering this item.

10. Read the item as written and check the response. If the food service establishment is both public and private, check both responses. The definitions for PUBLIC and PRIVATE will help you in answering this item.

11a. Read the item as written and check either Yes or No.

11b. Read the item as written and check either Yes or No.

12. If the food service establishment serves beer or other alcoholic beverages (Yes to either 11a or 11b), read this item as written. We want to determine what percent of the gross income from food and beverage sales is derived from the sale of beer and other alcoholic beverages. If this percentage is more than 50%, terminate the interview at this point.

13a. The purpose of this item is to determine what the manager believes are his major responsibilities. Do not read the alternatives or indicate in any way to the respondent what kind of an answer is expected. Check the responses in column "a" and record other statements exactly as given. We are interested in broad statements as well as specific duties.

13b. The purpose of this item is to determine which of the responsibilities listed in 13a are part of the respondent's regular work. We are not interested in those duties which he only performs occasionally to fill in for another worker. Read those duties which were not mentioned in 13a. In column "b" check either Yes, No, or Not Applicable. For example, waiting tables would be N.A. (not applicable) in a drive-in.

14a. The purpose of this item is to determine which of the specific duties listed in 13a takes up most of the respondent's time. Write "1" in column 14 after the responsibility, (may be a response checked or one stated by the respondent).

14b. Now we want to know which specific duty from 13a is the second most time consuming. Write "2" in column 14 after the response.

14c. We also want to know which specific duty from 13a is the third most time consuming. Write "3" in column 14 after the response.

15. Read the item as written and check the response. We want to know how long the food service establishment has been in its present location, regardless of ownership or management. If the respondent says he doesn't know, try to get an approximate answer.

16. Read the item as written and check the response. We want to know how long the manager has been managing this food service establishment regardless of ownership.

17a. Read the item as written, reading the alternatives to the respondent. Check either Yes or No after each type of service. The definitions for TABLE OR BOOTH, BUFFET, COUNTER, CAFETERIA, CARRY-OUT, CAR SERVICE, and VENDING will help you in answering this item.

17b. If the food service establishment provides more than one type of service (from 17a), read this item as written. We want to know which one type of service contributes to more than half of the total sales volume. Circle only one response in 17a.

17c. If the food service establishment provides a buffet service (Yes to buffet in 17a), read this item as written. Record the complete response.

17d. If the food service establishment provides a buffet service (Yes to buffet in 17a), read this item as written. Check meals that apply.

18. Read the item as written. Record the total number of seats, including chairs, stools, and booths. If it is evident that the establishment does not have any seats (i.e. drive-in), record a "0" and do not ask the question.

19. Read the item as written. We are interested in knowing what is the most frequently chosen lunch combination and its price. If lunch is not served at the establishment, obtain this same information for a dinner meal. The response should be written as:

Hamburger	.50
French Fries	.25
Cherry Pie	.25
Coffee	.10
	$1.10

If the items are not priced separately, insert the price of the complete meal. We must have the total price of the meal and all of the items which are included. Be sure to specify the menu which you are describing - lunch or dinner.

20. Read the item as written. Record the hours that the establishment is open for business each day. If the establishment is closed on a particular day, write "closed" under the hours column.

21. Read this item as written, reading the alternatives to the respondent. Check either Yes or No after each holiday listed and record any other holidays that the respondent mentions.

22a. Read the item as written and check either Yes or No. This would refer to any time not mentioned in either 20 or 21.

22b. If the food service establishment closes at some time during the year (Yes to 22a), read this item as written. Check the response indicating the length of time that the establishment is closed.

22c. If the food service establishment closes at some time during the year (Yes to 22a), read this item as written. Check the response indicating the season in which the establishment is closed.

23a. The purpose of this item is to determine the characteristics of the jobs in the food service. Before beginning this item you must be completely familiar with the definitions for MANAGEMENT AND SUPERVISORY PERSONNEL, NON-SUPERVISORY PERSONNEL, and the JOB DEFINITIONS.

Read the opening statement. List each job by the number of its title as listed on a separate sheet. Use the definitions for clarification of jobs. Since many jobs in food service establishments will differ as to title, it is up to you to see that the job titles we have listed, which are most like the jobs described to you by the respondent, are used. If an employee's job appears to be a combination of two or more jobs, list the appropriate numbers and circle the number of the job which occupies the majority of the employee's time. For jobs held by more than one employee (i.e. waitress), you will only need to list the job once. Care must be taken to record the job under the correct classification (Management and Supervisory Personnel or Non-supervisory Personnel and Full-time or Part-time). Both paid and unpaid employees must be listed.

Now, go back and job by job in each classification record the remainder of the information.

First, obtain the number of employees in each job. You may have already received this information when recording the jobs and do not need to ask now.

Second, ask for the sex of the employee(s) in each job. Indicate M for male, F for female, and MF if both males and females are employed for a job.

Third, show the respondent Card I. Obtain the age range(s) for the employee(s) in each job and indicate by the number of the range. If there is more than one employed in a given job, more than one age range may need to be specified.

Fourth, we want to determine labor turnover. Ask for the number of employees in each job who have left the food service in the last 3 months. The job termination may be for any reason - retirement, another job, etc.

Fifth, we want to know at present how many positions are unfilled for the particular job.

Sixth, we want to know how much a new employee in this job would be paid and also the top or highest wages for this job. Be sure to indicate the unit of the wage figure - hourly, weekly, or monthly. If this is an unpaid employee, write "none" under wages.

Seventh, we are interested in knowing which employees receive tips in addition to their wages.

At points 1, 2, 3, and 4, total the number of employees in each classification.

23b. Read the item as written. Either record the present number (1 from 23a) of full-time, management and supervisory personnel or the usual number of personnel in the blank to the right of the item. This number will be needed to total 23d.

23c. Read the item as written. Either record the present number (2 from 23a) of full-time, non-supervisory personnel or the usual number of personnel in the blank to the right of the item. This number will be needed to total 23d.

23d. To be answered by the interviewer. Add the number of employees from 23b and 23c to obtain the total usual number of full-time employees. This number will be needed for 24a.

23e. Read the item as written. Either record the present number (3 from 23a) of part-time, management and supervisory personnel or the usual number of personnel in the blank to the right of the item. This number will be needed to total 23g.

23f. Read the item as written. Either record the present number (4 from 23a) of part-time, non-supervisory personnel or the usual number of personnel in the blank to the right of the item. This number will be needed to total 23g.

23g. To be answered by the interviewer. Add the number of employees from 23e and 23f to obtain the total usual number of part-time employees. This number will be needed for 24b.

24a. From 23d you should have obtained the usual number of full-time employees. Insert this number in this item and read as written. We want to know whether the establishment will have an increase or decrease in the number of full-time employees at this time next year.

24b. From 23g you should have obtained the usual number of part-time employees. Insert this number in this item and read as written. We want to know whether the establishment will have an increase or decrease in the number of part-time employees at this time next year.

25a. Read the item as written. Obtain the most frequent number of hours that the respondent works. Do not accept a range of hours.

25b. Read the item as written. Obtain the most frequent number of days that the respondent works. Do not accept a range of days.

26. Read the item as written. Obtain the most frequent number of hours that all full and part-time, supervisory and non-supervisory personnel work. Do not accept a range of hours. There should be only one number (i.e. 44) in each box.

27. Read the item as written. Obtain the most frequent number of days that all full and part-time, supervisory and non-supervisory personnel work. Do not accept a range of days. There should be only one number (i.e. 6) in each box.

28. The following items refer to the fringe benefits provided for Management and Supervisory Personnel. It is possible that some establishment will not have any policy concerning one or more of these benefits. In this case write NDP (No Definite Policy) in the space provided for the answer.

a. Read the item as written and check Yes or No.

b. If paid holidays are given (Yes to a), read this item as written. Check all holidays mentioned by the respondent.

c. Read the item as written and check Yes or No.

d. If a paid vacation is given (Yes to c), read this item as written. Record the length of time personnel must work before a paid vacation is given.

e. If a paid vacation is given (Yes to c), read this item as written. Record the length of the first paid vacation.

f. If a paid vacation is given (Yes to e), read this item as written. Record the length of time personnel must work to increase the length of the paid vacation.

g. If a paid vacation is given (Yes to e), read this item as written. Record the maximum length of paid vacation given to personnel.

h. Read the item as written and check Yes or No.

i. If paid sick leave days are given (Yes to h), read the item as written. Record the number of paid sick leave days given per year.

j. If paid sick leave days are given (Yes to h), read this item as written. Check either Yes or No.

k. Read this item as written and check Yes or No. The addition of a monetary value for meals to the salary of an employee for the purpose of retirement or social security benefits is not considered payment for meals. If the employee check actually shows a deduction in the amount of pay for meals, this is to be considered payment for meals.

l. Read this item as written and check Yes or No. We are interested in knowing whether the food service provides uniforms for its employees without charge.

m. Read this item as written and check Yes or No.

29. The following items refer to the fringe benefits provided for Non-supervisory Personnel. It is possible that some establishments will not have any policy concerning one or more of these benefits. In this case write NDP (No Definite Policy) in the space provided for the answer. If the policy differs for some employees, indicate these differences.

Refer to the instructions for 28a - m, as they correspond to 29a - m.

30. Read the item as written and check Yes or No. If the food service has a plan for the rotation of jobs among workers, ask the respondent to explain the rotation. Record the complete response. Rotation is a plan whereby workers are assigned to different jobs.

31. Read the item as written and check Yes or No.

32a. If the respondent provides training for his employees (Yes to 31) and if the food service has a Head Cook (from 23a), read this item as written. We are interested in specific examples of how the last Head Cook hired was trained. Record the response exactly as stated.

32b. If the respondent answered 32a, read this item as written. Record the length of the training period.

32c. If the respondent answered 32a, read this item as written. Record the job title (not the name) of the person who trained the Head Cook.

33a. If the respondent provides training for his employees (Yes to 31) and if the food service has a Dish Machine Operator (from 23a), read this item as written. We are interested in specific examples of how the last Dish Machine Operator hired was trained. Record the response exactly as stated.

33b. If the respondent answered 33a, read this item as written. Record the length of the training period.

33c. If the respondent answered 33a, read this item as written. Record the job title (not the name) of the person who trained the Dish Machine Operator.

34a. If the respondent provides training for his employees (Yes to 31) and if the food service has a Waitress (from 23a), read this item as written. We are interested in specific examples of how the last Waitress hired was trained. Record the response exactly as stated.

34b. If the respondent answered 34a, read this item as written. Record the length of the training period.

34c. If the respondent answered 34a, read this item as written. Record the job title (not the name) of the person who trained the Waitress.

35a. If the food service has a Head Cook (from 23a), read this item as written. The numbered lines have been provided to facilitate recording the responses. Record only one characteristic or skill on each line.

35b. If the respondent answered 35a, read this item as written. We want to know which characteristic or skill is most important to the manager. Circle only one number in 35a, indicating the most important characteristic or skill.

36a. If the food service has a Dish Machine Operator (from 23a), read this item as written. The numbered lines have been provided to facilitate recording the responses. Record only one characteristic or skill on each line.

36b. If the respondent answered 36a, read this item as written. We want to know which characteristic or skill is most important to the manager. Circle only one number in 36a, indicating the most important characteristic or skill.

37a. If the food service has a Waitress (from 23a), read this item as written. The numbered lines have been provided to facilitate recording the responses. Record only one characteristic or skill on each line.

37b. If the respondent answered 37a, read this item as written. We want to know which characteristic or skill is most important to the manager. Circle only one number in 37a, indicating the most important characteristic or skill.

38a. If there are more than one management and supervisory personnel, read this item as written. Check either Yes or No.

38b. If the respondent has hired new management and supervisory personnel (Yes to 38a), read the item as written. Read the alternatives to the respondent and check Yes or No for each source. We want those sources which the respondent has used in hiring new management and supervisory personnel, not those which he thinks would be a good source but doesn't use.

38c. If the respondent answered 38b, read this item as written. Circle only one response.

39a. Read the item as written. Read the alternatives to the respondent and check Yes or No. We want those sources which the respondent has used in hiring new non-supervisory personnel, not those which he thinks would be a good source but doesn't use.

39b. Read the item as written. Circle only one response.

40. Read the item as written. Show the respondent Card II and ask him to indicate by letter the range which represents the sales volume of the food service for 1965. Inform the respondent that the sales volume will be used in analyzing the data and will be kept confidential.

41. Read the item as written. We would like to determine the sales volume for each month of 1965. If the respondent cannot check his records, ask for an approximate figure. The purpose of this item is to determine peak sales periods in food services. Add the monthly figures. The total should fall within the range checked in 40. If it does not, inform the respondent of this, and correct either 40 or 41.

42. Read the item as written. Circle the number representing the highest number of school years completed.

43. Read the item as written. Record the response exactly as stated. If the response to 42 was over 13, ask for the respondent's major or area of specialization in school after high school.

44. Read the item as written. We are interested in knowing of anything which the respondent believes to be a problem in the effective operation of the establishment. Record the response exactly as stated.

45. Here we are only trying to obtain a copy of the establishment's menu. Thank the manager for it and attach to the interview schedule.

Thank the respondent for his cooperation and give him a copy of "Sanitation of Food Service Establishments: A Guide for on-the-Job Training of Personnel".

EVALUATION:

Answer the questions on page 15 (blue) in your car immediately after concluding the interview. We would appreciate any general comments concerning the food service establishment or the interview which you believe would be helpful in interpreting and evaluating the data collected.

County______________________________

City______________________________

STATISTICAL LABORATORY
IOWA STATE UNIVERSITY

DAILY REPORT OF ACTIVITIES
Food Services

Page ____ of ____ page

Interviewer______________________________

Date______________________________

	Activity		Establishment			Eligible?				
						No 2 pages only		Yes Comp. Ques.		
Time	Odometer reading	Description of activity	No.	Name	Kind R - H NH-CH	Yes	No	Yes	No	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)		(9)

EXPENSES
Meals:
B.______
L.______
D.______
Lodging:
______
Other expenses: (Itemize) (Any item in this group over $1.00 should be accompanied by a receipt)
______
______
______
______

Total time worked__________ Chargeable mileage__________ Total

ADMINISTRATION

A. Salary, hours and method of payment

Each of the interviewers will furnish information to the University on the application forms. It is necessary to have a Social Security number. It will also be necessary to complete an income tax withholding exemption certificate.

Payment is made on an hourly basis. Allowable time includes training school, sample interview, driving time and interviewing.

The pay period begins the 16th day of each month and ends the 15th of the following month. Pay checks are issued on the last day of each month and will be mailed to your home from the Iowa State University Accounting Office.

B. Expenses

Car expenses You will be paid 10 cents a mile for miles traveled in connection with this study. Mileage expanded for personal reasons will not be paid. This mileage allowance covers all expenses concerned with travel (i.e., gas, oil, tolls, parking meters and lots, etc., are all included in the per mile allowance). Plan your travel and work as efficiently as possible so as to keep travel costs to a minimum.

Meals If you are interviewing some distance from your home and it is more feasible from a time and mileage standpoint to eat your lunches out, this expense will also be allowed. On the same basis, if you are some distance from home and have an evening appointment, the expenses for your evening meal will be allowed. Please try to keep you meal expense as reasonable as possible.

Lodging If you are working within 30 miles from your home, then you are not authorized lodging, and should return home after work. However, if your segment is located more than 30 miles from your home, it is usually more economical for you to stay in a motel or hotel that has reasonable rates and you will be expected to stay there. Check with your supervisor if an unusual circumstance arises. In order to be reimbursed for your motel expense obtain a receipt from the place where you stay and attach it to the Daily Report of Activities sheet. Enter the amount spent under the column marked "Expenses...Lodging".

Other expenses These expenses include telephone, postage, etc. Itemize the expense. Receipts for "Other Expenses" of $1.00 or over are necessary for reimbursement.

C. Daily report of activities

This form provides a quick and easy log for all administrative matters. The time and mileage involved in these surveys provide the laboratory with information essential to survey designs -- it is therefore important that the log be executed accurately. Entries should be made as each different activity is started. A new sheet (more if necessary) is to be used for each day of work.

Description of the entries to be made are:

County: Fill in the county and city in which you are working on the lines provided at the top of the Activities sheet.

Interviewer and date: Your name and the day and month of work.

Column (1). Time: Enter the time (to the nearest 5 minutes) for each activity entry. The first entry will be the start of the day's work; the last will be the end of the day's work. The end of the day's work means the time you finished editing, not the time you arrived at headquarters from the field work and then adding a note that hours were spent editing. Also, we would like to have you bracket in the left-hand margin your time out for meals and other personal reasons. This will aid in checking the time worked, since the actual time out for personal reasons is not always indicated clearly in the column.

Column (2). Odometer Reading: This space is provided for those activities involving travel.

On the line for which a travel activity is entered in column (3), enter the odometer reading at the start of the travel activity. On the next line enter the odometer reading at the end of the travel activity (in other words, the odometer reading at the time you started doing something that was not a travel activity).

Column (3). Description of Activity: This column is for listing the type of activity in which you are engaged for the time indicated in column (1). These activities may include:

a. Travel
b. Training school
c. Study
d. Interviewing
e. Editing (reviewing questionnaire)
f. Meet supervisor
g. Personal (lunch, dinner, etc.)

Each time you change type of activity, a new entry should be made in this column.

Columns 4, 5 and 6 pertain to the food establishment you are contacting.

Column (4). Number: Record the number assigned the establishment on your assignment sheet. The substitutes have an "S" prefix - this must also be included when a substitute is used, and a note made in the remarks column indicating for whom the substitution was made.

Column (5). Name: The name of the food establishment will be recorded here.

Column (6). Kind: Identify the type of establishment by code:

R - Restaurant
H - Hospital
NH - Nursing home
CH - Custodial home

Columns 7 and 8 will classify the establishment as to eligibility. If on page 2 of the questionnaire you determine that more than 50 per cent of the receipts from food and beverages are from alcoholic beverages, the establishment will not be eligible.

Column (7). 2 Pages Only: Will be used for the ineligible establishment. Check the appropriate column, indicating whether an interview was obtained. When mailing in these ineligible schedules, tear off the first two pages, clip together and mail those two pages only.

Column (8). Complete Questionnaire: If the establishment is eligible, check the "yes" or "no" column after contact has been made, indicating if a complete interview was obtained.

At the conclusion of each day's work, enter the totals in the blanks provided at the bottom of columns 7 and 8. This summarizes the number of interviews you have completed for the day by eligibility.

Column (9). Remarks: This space is provided for notations necessary to explain any of the activities. For example, reasons for a "no" entry in columns 7 and 8 should be entered here. If you have a non-interview, be sure that at least the first two pages of the questionnaire are complete and give a full explanation for the non-interview. If an interview was unusually long due to some interruptions, please indicate this here. This information is used when we compile data on the time and cost per interview.

Total time worked: By taking the time from the beginning of your day to the last time entry on your sheet, and subtracting out the time bracketed out for "personal" it is simple to compute the total time worked.

Chargeable mileage: Subtracting the beginning mileage from the ending mileage and then deducting any personal mileage that day, equals total chargeable mileage.

D. Miscellaneous

1. You should review your work daily. Do not hold your completed work unless instructed to do so by your supervisor, but mail it in at least twice a week or more often if sufficient work has been completed. Large manilla envelopes are provided for this purpose. You need not put postage on these envelopes.

2. You have been provided with small envelopes in which to mail your daily logs. These must be mailed in twice each week. If we have your daily logs in our office on Monday, a check for your expenses will probably be mailed to you by the end of that week. Our address is:

Statistitical Laboratory, Survey Section
Service Building
Iowa State University
Ames, Iowa

3. You should contact your supervisor whenever any problems arise that are not covered in your manual. Your supervisor's job is to help you do a good job. Call our Ames office, phone 515-294-3143, reversing the charges. Evenings you may call us at home, but do ask that the call be charged to the office phone.

Helen Ayres	232-4157		
Hazel Cook	232-5628		
Barbara Bobeng		292-1527	(evening)
		294-1730	(day)

REVISIONS OF INSTRUCTIONS AND THE INTERVIEW SCHEDULE
FOOD SERVICE ESTABLISHMENTS

p. 2 5. ON SCHEDULE:

(4) ______ HOTEL OR DOWNTOWN MOTEL
(5) ______ MOTEL OR MOTOR INN (ROADSIDE)

INSTRUCTIONS:

IF THE NUMBER OF EMPLOYEES IN A "DEPARTMENT STORE" IS UNDER 25, SPECIFY AS (6) OTHER - GENERAL STORE

7b. ON SCHEDULE:

HOW MANY OTHER ESTABLISHMENTS IN IOWA? ______

12. ON SCHEDULE:

WHAT PERCENT OF THE GROSS INCOME FROM THE SALE OF FOOD AND BEVERAGES IS DERIVED FROM THE SALE OF BEER OR OTHER ALCOHOLIC BEVERAGES? ______%

p. 3 13a. INSTRUCTIONS:

(0) ACCOUNTING - DERIVING FINANCIAL STATEMENTS AND KEEPING RECORDS FOR TAX PURPOSES

(3) COOKING - FOOD PRODUCTION

13b. INSTRUCTIONS:

TELL RESPONDENT THAT ANSWER MAY BE YES, NO, OR NOT APPLICABLE

p. 4 17a. INSTRUCTIONS:

(1) BUFFET - INCLUDES SMORGASBORD

(2) COUNTER - NOT A BAR WHERE ONLY LIQUOR IS SERVED - SPECIFY BARS UNDER (8) OTHER

(6) WINDOW SERVICE - INCLUDES ESTABLISHMENTS WHERE PATRON GOES TO A COUNTER TO GET FOOD AND TAKES TO A BOOTH, TABLE OR OUTSIDE

(7) VENDING - ONLY IF FOOD SERVICE PROVIDES FOOD FOR MACHINES

17d. INSTRUCTIONS:

(1) LUNCH - NOON MEAL EVERYDAY EXCEPT SUNDAY

(2) DINNER - EVENING MEAL OR SUNDAY NOON MEAL

p. 5 21. INSTRUCTIONS:

ASK FOR OTHER HOLIDAYS

p. 6 23a. INSTRUCTIONS:

TO QUALIFY AS MANAGEMENT AND SUPERVISORY PERSONNEL, DO NOT HAVE TO HAVE AUTHORITY TO HIRE OR DISCHARGE.

YOU MAY MAKE NOTE OF THE TITLES USED BY THE RESPONDENT IN THE MARGIN, FOR YOUR REFERENCE ONLY.

DO NOT ASK THE OWNER-MANAGER FOR HIS OWN WAGES.

STARTING WAGES REFER TO THOSE WHICH WOULD BE PAID AT PRESENT FOR A NEW PERSON WITHOUT EXPERIENCE IN JOB.

WRITE YES OR NO IN ANSWER TO TIPS.

THE "NUMBER OF PERSONS" REFERS TO THOSE NOW EMPLOYED.

DO NOT LIST MORE THAN 4 NUMBERS IN JOB TITLE COLUMN. (A COMMENT MAY BE MADE IN MARGIN IF NEEDED.)

DEFINITIONS:

(8) FOOD PRODUCTION SUPERVISOR - SAME AS FOOD SERVICE SUPERVISOR, EXCEPT SUPERVISES FOOD PRODUCTION WORKERS.

(30) SECRETARY OR CLERK - A PERSON WHO HANDLES OFFICE DUTIES, SUCH AS: KEEPING RECORDS, FILING, CORRESPONDING, ANSWERING TELEPHONE, BOOKKEEPING, ETC.

p. 7 INSTRUCTIONS:

RECORD ANY COMMENTS BY RESPONDENT AS TO NUMBER OF EMPLOYEES AT PEAK TIMES.

p. 9 28. INSTRUCTIONS:

DO NOT ASK THESE QUESTIONS OF THE OWNER-MANAGER, IF THERE ARE NO OTHER MANAGEMENT AND SUPERVISORY PERSONNEL.

29. FILL IN EVEN IF SAME BENEFITS AS MANAGEMENT AND SUPERVISOR PERSONNEL.

p. 12 38a.
38b.
39a.
39b.
DELETE

p. 13 43. INSTRUCTIONS:

IF RESPONDENT INDICATES SHE HAS A BACHELOR'S DEGREE WITH A MAJOR RELATED TO FOOD SERVICE, ASK HER IF SHE IS A MEMBER OF THE AMERICAN DIETETIC ASSOCIATION. IF SHE IS NOT, ASK HER IF SHE IS NOW WORKING TOWARD MEETING MEMBERSHIP REQUIREMENTS.

CHECK TO SEE THAT YOU HAVE USED THE CORRECT JOB NUMBER ON PAGE 6.

p. 14 45. INSTRUCTIONS:

DO NOT PAY FOR MENU COVERS.

INSTITUTION MANAGEMENT DEPARTMENT AND STATISTICAL LABORATORY
IOWA STATE UNIVERSITY
SURVEY OF FOOD SERVICE ESTABLISHMENTS IN IOWA

Interviewer____________________________County____________Date__________

Check type of institution: hospital____nursing home____custodial home____

Name of institution ____

		Date	Time
Address____________________________	First Call	________	________
City_______________________________	Second Call	________	________
Phone______________________________	Third Call	________	________

Name of institution administrator______________________________________

Name of person in charge of food service_______________________________

Title ____

1a. Is the institution within an urbanized area?

yes____no____

(If Yes to 1a, answer)

1b. What is the name of the central city of the urbanized area?

____

1c. What is the distance to the center of the central city of the urbanized area?______________________________

2. Is the institution within incorporated city limits?

yes____no____

3. (If Yes to 2, answer a) (If No to 2, answer b)

a. What is the size of the town or city?

b. What is the size of the nearest town or city?

a.		b.
____	0 - 999	____
____	1,000 - 2,499	____
____	2,500 - 4,999	____
____	5,000 - 9,999	____
____	10,000 - 24,999	____
____	25,000 - 49,999	____
____	50,000 99,999	____
____	100,000 or more	____

IOWA STATE UNIVERSITY
(To be answered by the administrator)

4a. WHO OWNS THE INSTITUTION?

(0) ____federal

(1) ____state

(2) ____county

(3) ____city

(4) ____private individual

(5) ____corporation

4b. DOES THE INSTITUTION HAVE ANY RELIGIOUS AFFILIATION? Yes____No____ (If Yes, ask)

WOULD YOU EXPLAIN THE EXTENT OF THIS AFFILIATION?________________________________

____

5a. (If owned by a private individual or corporation, ask:) ARE THERE OTHER INSTITUTIONS UNDER THIS SAME OWNERSHIP? Yes____No____

(If Yes to 5, ask:)

5b. HOW MANY IN IOWA?______________

5c. HOW MANY OUT OF IOWA?______________

6a. ARE THERE OTHER INSTITUTIONS UNDER THIS SAME MANAGEMENT? Yes____No____

(If Yes to 6a, ask:)

6b. HOW MANY IN IOWA?______________

6c. HOW MANY OUT OF IOWA?______________

6d. IS THE FOOD SERVICE DEPARTMENT MANAGED BY THE INSTITUTION? Yes____No____

(If No ask:) WHO MANAGES THE FOOD SERVICE? (Name of the company)

____

7a. WHAT IS THE PRESENT NUMBER OF BEDS OF EACH TYPE FOR WHICH YOUR INSTITUTION IS LICENSED?

		7b. NUMBER FILLED AT PRESENT?
(0) Hospital	(0) ____	(0) ____
a. General	a.) ____	a.) ____
b. Extended care	b.) ____	b.) ____
(1) Nursing home	(1) ____	(1) ____
(2) Custodial home	(2) ____	(2) ____

7c. DO YOU HAVE PLANS FOR INCREASING THE BED CAPACITY WITHIN THE NEXT FIVE YEARS?

Yes____No____

7d. (If Yes to 7c, ask:) HOW MANY BEDS DO YOU PLAN TO ADD WITHIN THE NEXT FIVE YEARS?____

7e. WHAT WAS THE AVERAGE DAILY BED PATIENT COUNT PER MONTH IN 1965?

MONTH	COUNT
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

7f. WHAT TYPES OF PATIENTS ARE CARED FOR? (Read alternatives)

	YES	NO
(0) General medical		
(1) Surgical		
(2) Maternity		
(3) Pediatric		
(4) Psychiatric		
(5) Outpatient		
(6) Custodial		

(7) Other, specify____________________

8a. HOW LONG HAS THE INSTITUTION BEEN IN THIS LOCATION?

(0) ____ less than one year
(1) ____ 1 - 4 years
(2) ____ 5 - 9 years
(3) ____ 10 years or more, specify____________________

8b. HOW LONG HAS THE PERSON IN CHARGE OF THE FOOD SERVICE BEEN MANAGING THE FOOD SERVICE OF THIS INSTITUTION?

(0) ____ less than one year
(1) ____ 1 - 4 years
(2) ____ 5 - 9 years
(3) ____ 10 years or more, specify____________________

8c. WHICH OF THESE SOURCES DO YOU USE IN HIRING NEW FOOD SERVICE MANAGEMENT AND SUPERVISORY PERSONNEL? (Read alternatives. Check Yes or No)

8d. WHAT SOURCE DO YOU BELIEVE PROVIDES YOU WITH YOUR BEST FOOD SERVICE MANAGEMENT AND SUPERVISORY PERSONNEL? (Circle response)

SOURCES	MANAGEMENT AND SUPERVISORY	
	YES	NO
Public employment office		
Private employment office		
Unsolicited application		
Local newspaper advertising		
Employee recommendations		
High schools		
Colleges		
Trade schools		
Sign in the window		

Other, specify____________________________

9a. DO YOU HAVE A SEPARATE PERSONNEL DEPARTMENT IN YOUR INSTITUTION?

Yes_____No_____

9b. (If Yes to 9a, ask:) WHAT FUNCTIONS ARE PERFORMED BY THE PERSONNEL DEPARTMENT IN RELATION TO FOOD SERVICE DEPARTMENT EMPLOYEES?

____

____

____

____

____

IOWA STATE UNIVERSITY

(To be answered by person in charge of food service)

10a. AS MANAGER, WHAT ARE YOUR MAJOR RESPONSIBILITIES? (Check responsibilities in column a for specific duties and write in other statements exactly as stated. Do not read the alternatives.)

a.		b.			11.
		Yes	No	N.A.	
	(0) accounting				
	(1) keeping records				
	(2) cashiering				
	(3) cooking				
	(4) hosting				
	(5) planning general diets				
	(6) purchasing				
	(7) employing workers				
	(8) supervising workers				
	(9) training workers				
	(10) discharging workers				
	(11) waiting tables				
	(12) working at counter				
	(13) planning modified diets				
	(14) checking patients' trays				
	(15) instructing patients on diets				
	(16) teaching student nurses				

10b. WHICH OF THE FOLLOWING SPECIFIC DUTIES ARE PART OF YOUR REGULAR WORK? (Read these specific duties in 10a, which were not mentioned and check Yes or No or Not Applicable in column b above)

11a. WHICH DUTY TAKES UP MOST OF YOUR TIME? (Write "1" in column 11 above)

11b. WHICH DUTY IS NEXT MOST TIME CONSUMING? (Write "2" in column 11 above)

11c. WHICH DUTY IS NEXT MOST TIME CONSUMING? (Write "3" in column 11 above)

12a. NOW WE WOULD LIKE TO FIND OUT SOMETHING ABOUT THE TYPE OF SERVICE AND THE NUMBER OF MEALS PREPARED IN THE INSTITUTION.

People served	No. of meals prepared for yesterday lunch	Type of service (Read alternatives) Check type of service used	Meal served		
			Breakfast	Lunch	Dinner
			Check meals served with each type of service used		
Patients	General_____	Bedside tray_______	_____	_____	_____
	Modified_____	Table_____________	_____	_____	_____
	Infant formula	Other, specify______	_____	_____	_____
	____________	_______________			
	Outpatient___				
Dietary employees	_____	Table____________	_____	_____	_____
		Counter__________	_____	_____	_____
		Cafeteria_________	_____	_____	_____
		Vending machines____	_____	_____	_____
		Other, specify_____	_____	_____	_____
		_______________	_____	_____	_____
Other Institution employees	_____	Table____________	_____	_____	_____
		Counter__________	_____	_____	_____
		Cafeteria_________	_____	_____	_____
		Vending machines____	_____	_____	_____
		Other____________	_____	_____	_____
Visitors	_____	Table____________	_____	_____	_____
		Counter__________	_____	_____	_____
		Cafeteria_________	_____	_____	_____
		Vending machines____	_____	_____	_____
		Other____________	_____	_____	_____

12b. DOES THE FOOD SERVICE DEPARTMENT SERVE FOOD FOR ANY SPECIAL GROUPS?

Yes_____No_____ (If Yes please list:)

Groups served for past week	Number served in each group
______________	______________
______________	______________
______________	______________
______________	______________
______________	______________
______________	______________

13. DO YOU SERVE BETWEEN MEAL NOURISHMENTS TO PATIENTS? Yes_____No_____

14a. DO YOU PROVIDE A MIDNIGHT SUPPER TO HOSPITAL EMPLOYEES? Yes_____No_____

(If Yes to 14a, ask.)

14b. WHAT KIND OF MEAL AND SERVICE IS PROVIDED AT THE MIDNIGHT SUPPER?

____

14c. HOW MANY MEALS ARE SERVED AT THE MIDNIGHT SUPPER?______________

____

14d. WHO PREPARES THE MEAL FOR THE MIDNIGHT SUPPER?______________

____

15. (If No bed patients, skip to 16.)
NOW WE WOULD LIKE TO FIND OUT A LITTLE ABOUT YOUR SERVICE TO BED PATIENTS. IN GENERAL, THE SYSTEMS FOR DISTRIBUTION OF TRAYS TO PATIENTS ARE KNOWN AS EITHER CENTRALIZED OR DECENTRALIZED. SOME INSTITUTIONS MAY USE BOTH OF THESE METHODS, OR THEY MAY HAVE A DIFFERENT METHOD OF SERVICE.

15a. CENTRALIZED SERVICE IS THE TYPE OF SERVICE IN WHICH FOOD IS PORTIONED IN A CENTRAL AREA, USUALLY NEAR THE KITCHEN, THEN DISTRIBUTED TO THE PATIENT AREAS BY CARTS OR DUMBWAITERS.

15b. DECENTRALIZED SERVICE IS THE TYPE OF SERVICE IN WHICH THE PREPARED FOOD IS DELIVERED IN BULK TO AN AREA NEAR THE PATIENTS' ROOMS WHERE IT IS PORTIONED AND DISTRIBUTED.

15c. ASSUMING THAT THE BEDS IN THE INSTITUTION ARE FILLED, APPROXIMATELY HOW MANY PATIENTS WOULD BE SERVED BY THE CENTRALIZED METHOD OF SERVICE, IN WHICH FOOD IS PORTIONED IN A CENTRAL AREA?

____

15d. ASSUMING THAT ALL THE BEDS IN THE INSTITUTION ARE FILLED, APPROXIMATELY HOW MANY PATIENTS WOULD BE SERVED BY THE DECENTRALIZED METHOD OF SERVICE, IN WHICH PREPARED FOOD IS DELIVERED IN BULK TO AN AREA NEAR THE PATIENTS' ROOMS, AND THEN PORTIONED?

____

15e. IF PART OR ALL OF YOUR SERVICE TO BED PATIENTS IS ENTIRELY DIFFERENT FROM EITHER CENTRALIZED OR DECENTRALIZED SERVICE, PLEASE EXPLAIN YOUR METHOD OF SERVICE, AND THE NUMBER OF PATIENTS SERVED BY THIS METHOD.____________________

____

____

15f. DOES A FOOD SERVICE DEPARTMENT EMPLOYEE TAKE TRAYS INTO PATIENTS' ROOMS?
Yes_____No_____

16. DO YOU HAVE A RESTAURANT LICENSE? Yes_____No_____

17a. DO YOU USE A CYCLE MENU? Yes_____No_____

17b. (If Yes to 17a, ask:) HOW LONG IS THE CYCLE?______________________________

18. DO YOU USE A SELECTIVE MENU FOR YOUR PATIENTS ON A GENERAL DIET?
Yes_____No_____

19. HOW FAR IN ADVANCE ARE MENUS PLANNED?______________________________

20a. NOW WE WOULD LIKE TO FIND OUT SOME INFORMATION ABOUT YOUR EMPLOYEES. FIRST, WHAT ARE THE JOBS IN YOUR FOOD SERVICE?

MANAGEMENT AND SUPERVISORY PERSONNEL

FULL-TIME

Number of Job Title	Number of Persons	Sex	Age Range	Number of Terminations Last 3 Months	Present Number of Unfilled Positions	Wages		Check if Tips
						$ Start	$ High	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	

TOTAL______(1)

PART-TIME

Number of Job Title	Number of Persons	Sex	Age Range	Number of Terminations Last 3 Months	Number of Unfilled Positions	Wages		Check if Tips
						$ Start	$ High	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	

TOTAL______(3)

NON-SUPERVISORY PERSONNEL

FULL-TIME

						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	

TOTAL______(2)

PART-TIME

						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	
						/	/	

TOTAL______(4)

20b. IS _____(1) YOUR USUAL NUMBER OF FULL-TIME SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF FULL-TIME SUPERVISORY EMPLOYEES? ___________

20c. IS _____(2) YOUR USUAL NUMBER OF FULL-TIME NON-SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF FULL-TIME NON-SUPERVISORY EMPLOYEES? ___________

20d. (Total usual number of full-time employees) ___________

20e. IS _____(3) YOUR USUAL NUMBER OF PART-TIME SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF PART-TIME SUPERVISORY EMPLOYEES? ___________

20f. IS _____(4) YOUR USUAL NUMBER OF PART-TIME NON-SUPERVISORY EMPLOYEES? yes____no____
(If No), WHAT IS YOUR USUAL NUMBER OF PART-TIME NON-SUPERVISORY EMPLOYEES? ___________

20g. (Total usual number of part-time employees) ___________

21a. YOU USUALLY HAVE ____* FULL-TIME EMPLOYEES, HOW MANY FULL-TIME EMPLOYEES DO YOU EXPECT TO EMPLOY AT THIS TIME NEXT YEAR? ________.
(*get total number of full-time employees from 23d.)

21b. YOU USUALLY HAVE ____* PART-TIME EMPLOYEES, HOW MANY PART-TIME EMPLOYEES DO YOU EXPECT TO EMPLOY AT THIS TIME NEXT YEAR? ________.
(*get total number of part-time employees from 23g.)

22. DO ANY EMPLOYEES WORK PART-TIME IN THE KITCHEN AND PART-TIME IN ANOTHER DEPARTMENT? YES____NO____ (If Yes, ask:) HOW MANY?______________

____

(If Yes, ask:) WHAT DEPARTMENTS?____________________

23a. HOW MANY HOURS PER WEEK DO YOU USUALLY WORK?________________

23b. HOW MANY DAYS PER WEEK DO YOU USUALLY WORK?________________

24. HOW MANY HOURS PER WEEK DOES A FOOD SERVICE EMPLOYEE USUALLY WORK?

	FULL-TIME	PART-TIME
Management and supervisory other than yourself		
Non-supervisory		

25. HOW MANY DAYS PER WEEK DOES A FOOD SERVICE EMPLOYEE USUALLY WORK?

	FULL-TIME	PART-TIME
Management and supervisory other than yourself		
Non-supervisory		

11.
I.M.

BENEFITS	26. MANAGEMENT AND SUPERVISORY PERSONNEL	27. NON-SUPERVISORY PERSONNEL
HOLIDAYS	a. ARE PAID HOLIDAYS GIVEN (or another paid day in exchange)? yes______no______ b. (If Yes to a, ask:) WHAT ARE THOSE HOLIDAYS? ____New years day ____Thanksgiving day ____Memorial day ____Christmas day ____Independence day ____Other, specify____________________ ____Labor day	a. ARE PAID HOLIDAYS GIVEN (or another paid day in exchange)? yes______no______ b. (If Yes to a, ask:) WHAT ARE THOSE HOLIDAYS? ____New years day ____Thanksgiving day ____Memorial day ____Christmas day ____Independence day ____Other, specify____________________ ____Labor day
VACATIONS	c. IS A PAID VACATION GIVEN? yes_____no_____ (If Yes to c, ask:) d. WHAT PERIOD OF WORK IS NECESSARY BEFORE A PAID VACATION IS GIVEN?____________________ e. WHAT IS THE LENGTH OF THE FIRST PAID VACATION?__________ f. WHAT PERIOD OF WORK IS NECESSARY TO INCREASE THE LENGTH OF THE PAID VACATION?____________________ g. WHAT IS THE MAXIMUM LENGTH OF PAID VACATION?__________	c. IS A PAID VACATION GIVEN? yes_____no_____ (If Yes to c, ask:) d. WHAT PERIOD OF WORK IS NECESSARY BEFORE A PAID VACATION IS GIVEN?____________________ e. WHAT IS THE LENGTH OF THE FIRST PAID VACATION?__________ f. WHAT PERIOD OF WORK IS NECESSARY TO INCREASE THE LENGTH OF THE PAID VACATION?____________________ g. WHAT IS THE MAXIMUM LENGTH OF PAID VACATION?__________
SICK LEAVE DAYS	h. ARE SICK LEAVE DAYS GIVEN WITH PAY? yes_____no_____ (If Yes to h, ask:) i. HOW MANY SICK LEAVE DAYS ARE GIVEN PER YEAR?__________ j. ARE SICK LEAVE DAYS CUMULATIVE? yes_____no_____	h. ARE SICK LEAVE DAYS GIVEN WITH PAY? yes_____no_____ (If Yes to h, ask:) i. HOW MANY SICK LEAVE DAYS ARE GIVEN PER YEAR?__________ j. ARE SICK LEAVE DAYS CUMULATIVE? yes_____no_____
MEALS	k. ARE MEALS PROVIDED WITHOUT CHARGE DURING PERIODS WHEN ON DUTY? yes_____no_____	k. ARE MEALS PROVIDED WITHOUT CHARGE DURING PERIODS WHEN ON DUTY? yes_____no_____
UNIFORMS	l. ARE UNIFORMS FURNISHED BY THE FOOD SERVICE? yes_____no_____ m. ARE UNIFORMS LAUNDERED BY THE FOOD SERVICE? yes_____no_____	l. ARE UNIFORMS FURNISHED BY THE FOOD SERVICE? yes_____no_____ m. ARE UNIFORMS LAUNDERED BY THE FOOD SERVICE? yes_____no_____

28. IS THERE ANY PLAN FOR ROTATION OF JOBS AMONG WORKERS? yes____no____
(If Yes, ask the respondent to explain the rotation.)

____

____

____

____

____

29. DO YOU PROVIDE TRAINING FOR YOUR EMPLOYEES? yes____no____
(If No, skip to 33a.)

30a. SPECIFICALLY, HOW DID YOU TRAIN THE LAST HEAD COOK THAT YOU HIRED?
(If No Head Cook, skip to 31a.)

____

____

____

____

____

30b. HOW LONG WAS THE TRAINING PERIOD?______________________________

30c. WHO DID THE TRAINING?______________________________

31a. SPECIFICALLY, HOW DID YOU TRAIN THE LAST DISH MACHINE OPERATOR THAT YOU HIRED? (If No Dish Machine Operator, skip to 32a.)

____

____

____

____

____

31b. HOW LONG WAS THE TRAINING PERIOD?______________________________

31c. WHO DID THE TRAINING?______________________________

32a. SPECIFICALLY, HOW DID YOU TRAIN THE LAST TRAY GIRL THAT YOU HIRED?
(If No Tray Girl, skip to 33a.)

____

____

____

____

____

32b. HOW LONG WAS THE TRAINING PERIOD?______________________________

32c. WHO DID THE TRAINING?______________________________

33a. WHAT CHARACTERISTICS AND SKILLS DO YOU THINK A HEAD COOK SHOULD HAVE IN ORDER TO WORK EFFECTIVELY? (If No Head Cook, skip to 34a.)

0. ______
1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______

33b. WHICH IS THE MOST IMPORTANT CHARACTERISTIC OR SKILL? (Circle response number.)

34a. WHAT CHARACTERISTICS AND SKILLS DO YOU THINK A DISH MACHINE OPERATOR SHOULD HAVE IN ORDER TO WORK EFFECTIVELY? (If No Dish Machine Operator, skip to 35a.)

0. ______
1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______

34b. WHICH IS THE MOST IMPORTANT CHARACTERISTIC OR SKILL? (Circle response number.)

35a. WHAT CHARACTERISTICS AND SKILLS DO YOU THINK A TRAY GIRL SHOULD HAVE IN ORDER TO WORK EFFECTIVELY? (If No Tray Girl, skip to 36a.)

0. ____________________
1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________

35b. WHICH IS THE MOST IMPORTANT CHARACTERISTIC OR SKILL? (Circle response number.)

36a. WHICH OF THESE SOURCES DO YOU USE IN HIRING NEW NON-SUPERVISORY EMPLOYEES? (Read alternatives, check Yes or No.)

36b. WHAT SOURCE DO YOU BELIEVE PROVIDES YOU WITH YOUR BEST NON-SUPERVISORY EMPLOYEES? (Circle response.)

	NON-SUPERVISORY	
	Yes	No
Public employment office		
Private employment office		
Unsolicited application		
Local newspaper advertising		
Employee recommendations		
High schools		
Colleges		
Trade schools		
Sign in the window		

Other, specify____________________

37. HOW MANY YEARS OF SCHOOL HAVE YOU COMPLETED? (Circle response)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Other, specify____

38. WHAT IS YOUR PREVIOUS TRAINING AND EXPERIENCE IN FOOD SERVICE? (If number of school years from question 37 is 13 or over and they do not mention their major or area of specialization in school after high school, ask for it.)

39. WHAT DO YOU CONSIDER YOUR MAJOR MANAGERIAL PROBLEMS?

INTERVIEWER'S EVALUATION

Please answer the following questions immediately after completing the interview and returning to your car.

1. Do you have any general comments about this food service department or the interview which you think would be helpful in interpreting and evaluating the data collected?

2. Did the respondent consult any records to help him in answering the questions?

	YES	NO
Administrator		
Food service person		

3. Do you believe that the information obtained in the interview is accurate?

	YES	NO
Administrator		
Food service person		

4. Was the respondent cooperative?

	YES	NO
Administrator		
Food service person		

5. Do you think the respondent would cooperate by participating in a future study?

	YES	NO
Administrator		
Food service person		

INSTITUTION MANAGEMENT DEPARTMENT
and
STATISTICAL LABORATORY
IOWA STATE UNIVERSITY

INTERVIEWER INSTRUCTIONS

SURVEY OF FOOD SERVICE ESTABLISHMENTS IN IOWA

April, 1966

YOUR JOB AND RESPONSIBILITIES

You are a representative of the Statistical Laboratory of Iowa State University for the duration of the survey. One of your responsibilities is to maintain good will from the beginning to the end of the interview.

The success of this survey depends upon your work in gathering the information. Many hours have been spent in preparing the interview schedule and instructions for each question. No set of instructions will cover every situation in the field, and we are depending on your common sense to deal with irregular cases. In all cases of doubt, list the details of the case on the interview schedule. However, the instructions provided in this manual should aid you in most phases of your work. Keep it with you and add notes as new situations arise and are solved.

All of our experience and all we have learned about making interview surveys have demonstrated that in the final showdown, the most important person connected with the survey is the interviewer. We can draw a good sample, design a good interview schedule, and make a highly competent analysis, but if the interviewer has not done her job well, the results of the survey will not be good. This is not to minimize the importance of the other phases of an interview survey, but so much depends on the skill with which the interviewer does her job that no effort should be spared to perfect the techniques and procedures of interviewing so that the results of the time and effort spent will be fully worthwhile.

OBJECTIVES OF THE SURVEY

The major objectives of this survey are:

1. To determine characteristics of the food service industry in Iowa.
2. To determine characteristics of present employment in the food service industry.
3. To determine characteristics of employee training within food service establishments.
4. To determine present employers' concepts of characteristics and skills of workers necessary for working effectively in specific jobs.
5. To determine the future needs for food service workers.

RULES FOR CALL BACKS AND SUBSTITUTIONS

Three call backs are to be made at each establishment on your list, making an effort on the first call to make an appointment for a future time or determine when the best time would be to call back if an interview cannot be made on the first contact. If an interview cannot be obtained from this establishment, there can be no substitutions.

DEFINITIONS OF TERMS FOR THE INTERVIEW SCHEDULE

The definitions are numbered to correspond to the questions on the interview schedule.

1. URBANIZED AREA

An urbanized area contains at least one city of 50,000 inhabitants or more in 1960, as well as the surrounding closely settled incorporated places and unincorporated areas that meet the criteria listed below. An urbanized area may be thought of as divided into the central city or cities, and the remainder of the area, known as the urban fringe.

In addition to its central city or cities, an urbanized area also contains the following types of contiguous areas, which together constitute its urban fringe:

1. Incorporated places with 2500 inhabitants or more.
2. Incorporated places with less than 2500 inhabitants provided each has a closely settled area of 100 housing units or more.
3. Districts in unincorporated territory with a population density of 1,000 inhabitants or more per square mile.
4. Other districts in unincorporated territory with lower population density provided that they serve one of the following purposes:
    a. To eliminate enclaves
    b. To close indentations in the urbanized areas of one mile or less across the open end, and
    c. To link outlying districts of qualifying density that were no more than 1½ miles from the main body of the urbanized area.

The central cities of urbanized areas in Iowa are: Cedar Rapids, Council Bluffs, Davenport, Des Moines, Dubuque, Sioux City, and Waterloo.

6. (1) CONTRACT FOOD SERVICE

An outside concern which by a contractual agreement operates and manages a food service for another organization.

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7. (1) HOSPITAL

This term shall be restricted to institutions providing community service for inpatient medical or surgical care of sick or injured; this includes obstetrics. (A General Hospital is any hospital for short term care of illness or injury including care of maternity patients. An Extended Care Facility is a facility providing community service for inpatient care of convalescent or chronic disease patients who require skilled nursing care or related medical services.)

7. (2) NURSING HOME

This means any institution, place or building or agency which is devoted primarily to the maintenance and operation of facilities for the housing, for a period exceeding 24 hours, and for providing skilled nursing care and related medical services for two or more non-related individuals who are not acutely ill and not in need of hospital care, but who, by reason of age, illness, disease, injury, convalescence, or physical or mental infirmity, need such care.

7. (3) CUSTODIAL HOME

This means any institution, place, building or agency which is devoted primarily to the maintenance and operation of facilities for the housing, for a period exceeding 24 hours, and for care in excess of food, shelter, laundry or services incident thereto, for two or more non-related individuals who are not in need of nursing care or related medical services, but who, by reason of age, illness, disease, injury, convalescence or physical or mental infirmity are unable to care for themselves.

---

7. (0) GENERAL MEDICAL

Patients admitted for any cause other than the specialized areas such as surgical, maternity, pediatric, etc.

7. (1) SURGICAL

Patients admitted for any type of surgery excluding maternity.

7. (2) MATERNITY

Mothers before, during, and after delivery, and the newborn child.

7. (3) PEDIATRIC

Children under the age of 14 years, excluding the newborn child.

7. (4) PSYCHIATRIC

Patients admitted for treatment of nervous and mental diseases.

7. (5) OUTPATIENT

Patients treated at the institution who do not occupy bed space.

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12. (0) TABLE OR BOOTH SERVICE

Food is carried to the table or booth by waiters or waitresses.

12. (2) COUNTER SERVICE

Guests are seated on stools at a long, narrow table or counter. Usually the food is served and cleared by an attendant from the back of the counter. Food may be prepared behind the counter or in an adjacent kitchen.

12. (3) CAFETERIA SERVICE

With the exception of hot foods which are served from hot food tables by counter attendants, all food items are picked up or dispensed by the patrons themselves. Food items are usually prepared in advance and are ready for service, but some items may be prepared to order. Emphasis is placed upon display. Foods are displayed so as to appeal to the patron and to emphasize the wide range of choice offered.

12. (7) VENDING

This item refers to food service from coin-operated vending machines which dispense hot or cold sandwiches, hot soups, salads, pastries, puddings, desserts, fruits, or beverages. The use of coin-operated machines for vending candy, cigarettes, and non-food items does not apply. Supplied by

---

17. CYCLE MENU

A menu planned for a given length of time such as six or eight weeks; the menus are then used again in the same order during a later period.

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18. SELECTIVE MENU

A menu in which there is more than one choice of some or all items. The patient is allowed to select the item he wants.

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20. MANAGEMENT AND SUPERVISORY PERSONNEL

Those who have authority to hire, transfer, suspend, lay-off, recall, promote, discharge, assign, reward, or discipline other employees, and responsibility to direct them in their work. The exercise of this authority and responsibility is not merely of a routine nature, but requires the use of independent judgment. Management and supervisory personnel are concerned with planning for the efficient and economical operation of the establishment.

20. NON-SUPERVISORY PERSONNEL

Those workers who do not have supervisory authority and responsibility.

20. (0) COOK MANAGER OR CHEF

Supervises and usually assists other cooks in the preparation and cooking of meats, sauces, vegetables, and other foods. May supervise the activities of all kitchen personnel; may hire and discharge kitchen personnel; may plan menus, estimate consumption, and order food stuffs.

20. (1) DIETITIAN

A member of the American Dietetic Association, or one who is currently qualifying for membership; a professionally educated person who has a baccalaureate degree and advanced education or qualifying experience in nutrition and/or management and is proficient in the application of these sciences to feeding individuals in groups.

20. (6) FOOD SERVICE MANAGER

A person who may or may not hold a baccalaureate degree, who has had experience in food service administration, becoming proficient in food service management, and who is designated head of the food service department.

20. (7) FOOD SERVICE SUPERVISOR

A person who provides direct supervision of food service workers and is responsible to another food service management or supervisory person.

20. (11) BAKER

Mixes ingredients for and bakes bread, rolls, muffins, biscuits, cakes, cookies, pies, and other pastries or desserts.

20. (12) BUSBOY OR BUSGIRL

Takes away courses and soiled dishes to kitchen, replaces soiled table linen with clean linen, replenishes butter supply of guests, fills water bottles and glasses, and brings clean silverware to dining room. May do other tasks such as washing dishes, setting tables, cleaning and polishing silverware, and preparing coffee.

20. (13) BUTCHER

Trims, bones, and cuts raw meats into portions for cooking, making individual cuts of meat from a specified portion of the carcass. May also be poultry and fish butcher.

20. (14) CASHIER

Receives money from customers or waiters and waitresses in payment of food checks; makes necessary change; may balance cash received against cash register or other record of receipts.

20. (15) CHECKER, FOOD

Checks quantities of food on waiters' or customers' trays and enters amount due on check, or in cash register, or otherwise tabulates the price of each individual's order or portion of food.

20. (16) COOK, ASSISTANT

Works under the immediate supervision of a head cook or manager in the preparation of food, may dish food, and otherwise relieves cooks of routine duties. Workers in this classification are frequently designated according to their assigned position, such as roast cook, vegetable cook, etc.

20. (17) COOK, HEAD

Supervises and usually assists other cooks in the preparation and cooking of meats, sauces, vegetables, and other foods. May supervise the activities of all kitchen personnel; may plan menus, estimate consumption, and order food stuffs.

20. (18) COOK, SHORT ORDER

Cooks to order steaks, chops, cutlets, eggs, and other quickly prepared foods. May serve to waiters or to customers over counter. May also serve roasts, stews, soups, sauces, or vegetables from a steamtable.

20. (19) COUNTER ATTENDANT

Serves food from a steamtable or counter to patrons or waiters and waitresses; cleans counters, steamtables, and other equipment. May perform various unskilled tasks in the preparation of food, such as slicing meats, cheese, bread and butter; preparing toast, hot cakes, waffles, eggs, sandwiches, or beverages; and preparing salads.

20. (20) DISHWASHER

Washes dishes, glassware, pots, and pans by hand or machine. May, in addition, assist with simple tasks as cleaning and preparing vegetables and handling supplies.

20. (21) FOUNTAIN MAN

Prepares and serves all types of soft drinks and ice cream dishes. May make coffee and prepare and serve sandwiches or other foods. Cleans fountain and polishes metal work on fountain. May accept payment from customer and make change.

20. (22) HOSTESS OR HOST

Greets and seats customers. May direct the activities of waitresses and busboys to insure courteous and rapid service. May maintain supplies and equipment.

20. (23) KITCHEN HELPER

Performs routine cooking duties to assist cooks and assistant cooks. Work includes such tasks as preparing vegetables for cooking by cleaning, chopping, cutting, or grinding them; watching and stirring food that is cooking; and making toast and beverages.

20. (24) PORTER

Performs one or more of a variety of unskilled tasks such as cleaning and scrubbing kitchen tables and floor; removing garbage and soiled linens; replenishing supplies of crushed ice, clean linens, and other materials and supplies.

20. (25) RECEIVING CLERK - STOREROOM MAN

May order, receive, inspect, store, weigh or issue food. Takes periodic inventories or keeps a perpetual inventory of stock on hand, and prepares necessary reports.

20. (26) WAITRESS OR WAITER

Serves food and/or beverage to patrons; in addition, usually takes orders from patron and makes out check. May set table (or counter) with linen and silverware and may take payment from patron.

20. (27) FLOOR PANTRY HELPER

Helps in completion of patients' trays in pantry area on patients' floors. May prepare beverages or other foods prepared in the floor pantry. May portion food into dishes.

20. (28) TRAY BOY OR TRAY GIRL

Delivers trays to patients' serving areas; may deliver to patients' rooms. Returns trays to carts or to dishwashing area. Other miscellaneous duties related to distribution of food.

20. (29) CART GIRL OR CART BOY

Responsible for taking food carts to the patient serving areas, and returning them to the kitchen. Sees to cleaning of carts. Other miscellaneous duties related to distribution of food.

20. (30) SECRETARY OR CLERK

A person who handles office duties, such as: keeping records, filing, correspondence, answering telephone, etc.

INTRODUCTORY REMARKS

There are three parts to the introduction - stating your name, your connection with Iowa State University, and telling the purpose of your visit. You will have a letter of introduction from the Statistical Laboratory which you may use in case there seems to be some doubt in the respondent's mind about whom you represent.

The following is a suggested introduction:

> "I am ______________________. I am employed by Iowa State University at Ames where they are conducting research regarding food service establishments in Iowa. The purpose is to determine bases for food service education programs. To get current information about the food service industry, we are interviewing a random sample of food service managers all over the state. We would appreciate your cooperation."

GENERAL COMMENTS

Assure the manager that all information obtained will be strictly confidential and will be coded when the interview schedules are analyzed. Data from the entire survey may be published, but no information will ever be published or revealed in connection with the name of the establishment.

You will encounter some cases where it will seem strange to ask a question as it is written. The reason for this is that the interview schedule was designed to cover all types of food service establishments - from a drive-in to a supper club. It is very important that you ask all questions exactly as they are written.

To facilitate using the interview schedule, all information to be read to the respondent has been printed in continuous capital letters. Information to assist you has been printed in small letters and enclosed in parentheses.

DETAILED INSTRUCTIONS FOR THE INTERVIEW SCHEDULE

HEADING

Check the type of institution. Record the complete name of the institution, its address, and telephone number. Record the name of the institution administrator and the name and title of the person in charge of the food service department.

SCHEDULE

Items 1-3 to be answered by the interviewer.

1a. The definition for URBANIZED AREA will help you in answering this item. Check Yes or No for your response.

1b. If the institution is located within an urbanized area (Yes to 1a), record the name of the central city of the urbanized area. These cities are listed in the definition for urbanized area.

1c. If the institution is located within an urbanized area (Yes to 1a), record the distance from the institution to the central city of the urbanized area. We are interested in the distance to the center of the city, rather than to the city limits or perimeter of the city. You may ask the respondent for help in answering this item.

2. If necessary you may ask the respondent if the institution is within the incorporated city limits. Check Yes or No for your response.

3. If the institution is within incorporated city limits (Yes to 2), answer "a" of this item. If the institution is not within incorporated city limits (No to 2), answer "b" of this item.

   a. Check the size of the town or city in which the institution is located. You may ask the respondent for help in answering this item.

   b. Check the size of the nearest town or city. You may ask the respondent for help in answering this item.

Items 4-9 are to be answered by the administrator.

4a. Read the item as written. Do not read the alternatives to the respondent. Check the appropriate response.

4b. Read the item as written. Check Yes or No. If there is a religious affiliation (Yes to 4b) ask the respondent to explain the extent of the affiliation.

5a. If the institution is owned by a private individual or a corporation, read the item as written and check Yes or No.

5b. If there are other institutions under this same ownership (Yes to 5a), read the item as written and record the number of such institutions in Iowa.

5c. If there are other institutions under the same ownership (Yes to 5a), read the item as written and record the number of such institutions out of Iowa.

6a. Read the item as written. Check Yes or No.

6b. If there are other institutions under this same management (Yes to 6a), read the item as written and record the number of such institutions in Iowa.

6c. If there are other institutions under the same management (Yes to 6a), read the item as written and record the number of such institutions out of Iowa.

6d. Read the item as written. Check Yes or No. If the food service department is not managed by the institution, read the item as written, and record the name of the contract food service company which manages the food service. The definition of CONTRACT FOOD SERVICE will help in answering this item.

7a. Read the item as written. Read each type of bed and record the number of beds of each type for which the institution is licensed. The definitions for HOSPITAL, NURSING HOME, and CUSTODIAL HOME will help you in answering this question.

7b. Ask for the number of beds, of each type, which are filled at the present time.

7c. Read the item as written and check Yes or No.

7d. If there are plans for increasing the bed capacity within the next five years (Yes to 7c), read the item as written and record the number of beds which will be added.

7e. Read the item as written and record the average daily bed patient count in 1965 by month. Do not include newborn babies.

7f. Read the item as written. Read the alternatives to the respondent and check Yes or No for each type of patient cared for in the institution. The definitions for GENERAL MEDICAL, SURGICAL, MATERNITY, PEDIATRIC, PSYCHIATRIC, and OUTPATIENT will help you in answering this item.

8a. Read the item as written and check the response. We want to know how long the institution has been in its present location, regardless of ownership or management. If the respondent says he doesn't know, try to get an approximate answer.

8b. Read the item as written and check the response. We want to know how long the manager has been managing this food service department regardless of ownership.

8c. Read the item as written. Read the alternatives to the respondent and check Yes or No for each source. We want those sources which the respondent has used in hiring new management and supervisory personnel, not those which he thinks would be a good source but doesn't use. If the respondent has not hired new food service management and supervisory personnel, specify this in margin.

8d. If the respondent answered 8c, read this item as written. Circle only one response.

9a. Read the item as written and check Yes or No.

9b. If there is a separate personnel department (Yes to 9a), read the item as written and record the functions performed by the personnel department which relate to food service department employees.

Items 10-39 to be answered by the person in charge of the food service department.

10a. The purpose of this item is to determine what the manager believes are his major responsibilities. Do not read the alternatives or indicate in any way to the respondent what kind of an answer is expected. Check the responses in column "a" and record other statements exactly as given. We are interested in broad statements as well as specific duties.

10b. The purpose of this item is to determine which of the responsibilities listed in 10a are part of the respondent's regular work. We are not interested in those duties which he only performs occasionally to fill in for another worker. Read those duties which were not mentioned in 10a. In column "b" check either Yes, No, or Not Applicable. For example, waiting tables would be N.A. (not applicable) if no table service is used.

11a. The purpose of this item is to determine which of the specific duties listed in 10a takes up most of the respondent's time. Write "1" in column 11 after the responsibility (may be a response checked or one stated by the respondent).

11b. Now we want to know which specific duty from 10a is the second most time consuming. Write "2" in column 11 after the response.

11c. We also want to know which specific duty from 10a is the third most time consuming. Write "3" in column 11 after the response.

12a. Read the opening statement. Begin with patient meal service and ask for the number of meals for each type of diet prepared for yesterday lunch. Then ask for the types of service used for patients. Read the alternatives to the respondent and check each response. For each response check the meals (breakfast, lunch, dinner) for which this type of service is used.

Go on to dietary employees. Record the number of meals prepared for yesterday lunch, types of service offered, and for which meals each type of service is used.

Complete for other institution employees in the same way, recording the number of meals prepared for yesterday lunch and checking the types of service and meals for which each type of service is used.

Complete in the same way for meals served to hospital visitors.

The definitions for GENERAL and MODIFIED DIETS, TABLE, COUNTER, CAFETERIA, and VENDING service will help you in answering this item.

12b. Read the item as written and check Yes or No. If the food service department does serve food to any special groups, please list the groups served during the past week, and the number served in each group.

If reg service - don't count - special coffee - check

13. Read the item as written and check Yes or No.

14a. Read the item as written and check Yes or No.

14b. If a midnight supper is provided (Yes to 14a), read the item as written and record the kind of service and type of service provided at the midnight supper.

14c. If a midnight supper is provided (Yes to 14a), read the item as written and record the number of meals served at the midnight supper.

14d. If a midnight supper is provided (Yes to 14a), read the item as written and record the job title of the person who prepares the meal for the midnight supper. Use the job title given you by the respondent.

15. If the institution does not have any bed patients, do not ask this question, skip to 16. Custodial homes may or may not have bed patients.

If there are bed patients, read the opening statement. Then go on and read 15a and 15b, the definitions of centralized and decentralized service.

Then go on to 15c, and read the item as written. Record the approximate number of patients served by the centralized method of service if all beds are filled.

Go on to 15d and read the item as written. Record the approximate number of patients served by the decentralized method of service, if all the beds are filled.

15e. Read the item as written and record the type of service used by the institution and the number served by this method, if a method of service is used that is different from either centralized or decentralized service.

15f. Read the item as written and check Yes or No.

16. Read the item as written and check Yes or No.

17a. Read the item as written and check Yes or No. The definition of CYCLE MENUS will help you in answering this item.

17b. If a cycle menu is used (Yes to 17a), read the item as written and record the length of the cycle.

18. Read the item as written and check Yes or No. The definition of SELECTIVE MENU will help you in answering this item.

19. Read the item as written and record how far in advance menus are planned.

20a. The purpose of this item is to determine the characteristics of the jobs in the food service. Before beginning this item you must be completely familiar with the definitions for MANAGEMENT AND SUPERVISORY PERSONNEL, NON-SUPERVISORY PERSONNEL, and the JOB DEFINITIONS.

Read the opening statement. List each job by the number of its title as listed on a separate sheet. Use the definitions for clarification of jobs. Since many jobs in food service establishments will differ as to title, it is up to you to see that the job titles we have listed, which are most like the jobs described to you by the respondent, are used. If an employee's job appears to be a combination of two or more jobs, list the appropriate numbers and circle the number of the job which occupies the majority of the employee's time. For jobs held by more than one employee (i.e. waitress), you will only need to list the job once. Care must be taken to record the job under the correct classification (Management and Supervisory Personnel or Non-supervisory Personnel and Fulltime or Part-time). Both paid and unpaid employees must be listed.

Now, go back and job by job in each classification record the remainder of the information.

First, obtain the number of employees in each job. You may have already received this information when recording the jobs and do not need to ask now.

Second, ask for the sex of the employee(s) in each job. Indicate M for male, F for female, and MF if both males and females are employed for a job.

Third, show the respondent Card I. Obtain the age range(s) for the employee(s) in each job and indicate by the number of the range. If there is more than one employed in a given job, more than one age range may need to be specified.

Fourth, we want to determine labor turnover. Ask for the number of employees in each job who have left the food service in the last 3 months. The job termination may be for any reason - retirement, another job, etc.

Fifth, we want to know at present how many positions are unfilled for the particular job.

Sixth, we want to know how much a new employee in this job would be paid and also the top or highest wages for this job. Be sure to indicate the unit of the wage figure - hourly, weekly, or monthly. If this is an unpaid employee, write "none" under wages.

Seventh, we are interested in knowing which employees receive tips in addition to their wages.

At points 1, 2, 3, and 4, total the number of employees in each classification.

20b. Read the item as written. Either record the present number (1 from 20a) of full-time, management and supervisory personnel or the usual number of personnel in the blank to the right of this item. This number will be needed to total 20d.

20c. Read the item as written. Either record the present number (2 from 20a) of full-time, non-supervisory personnel or the usual number of personnel in the blank to the right of the item. This number will be needed to total 20d.

20d. To be answered by the interviewer. Add the number of employees from 20b and 20c to obtain the total usual number of full-time employees. This number will be needed for 21a.

20e. Read the item as written. Either record the present number (3 from 20a) of part-time, management and supervisory personnel or the usual number of personnel in the blank to the right of the item. This number will be needed to total 20g.

20f. Read the item as written. Either record the present number (4 from 20a) of part-time, non-supervisory personnel or the usual number of personnel in the blank to the right of the item. This number will be needed to total 20g.

20g. To be answered by the interviewer. Add the number of employees from 20e and 20f to obtain the total usual number of part-time employees. This number will be needed for 21b.

21a. From 20d you should have obtained the usual number of full-time employees. Insert this number in this item and read as written. We want to know whether the establishment will have an increase or decrease in the number of full-time employees at this time next year.

21b. From 20g you should have obtained the usual number of part-time employees. Insert this number in this item and read as written. We want to know whether the establishment will have an increase or decrease in the number of part-time employees at this time next year.

22. Read the item as written and check Yes or No.

If any employees work part-time in the kitchen and part-time in another department, read the item as written and record the number of such employees and the other department in which the employees work.

23a. Read the item as written. Obtain the most frequent number of hours that the respondent works. Do not accept a range of hours.

23b. Read the item as written. Obtain the most frequent number of days that the respondent works. Do not accept a range of days.

24. Read the item as written. Obtain the most frequent number of hours that all full and part-time, supervisory and non-supervisory personnel work. Do not accept a range of hours. There should be only one number (i.e. 44) in each box.

25. Read the item as written. Obtain the most frequent number of days that all full and part-time, supervisory and non-supervisory personnel work. Do not accept a range of days. There should be only one number (i.e. 6) in each box.

26. The following items refer to the fringe benefits provided for Management and Supervisory Personnel. It is possible that some establishment will not have any policy concerning one or more of these benefits. In this case write NDP (No Definite Policy) in the space provided for the answer.

a. Read the item as written and check Yes or No.

b. If paid holidays are given (Yes to a), read this item as written. Check all holidays mentioned by the respondent.

c. Read the item as written and check Yes or No.

d. If a paid vacation is given (Yes to c), read this item as written. Record the length of time personnel must work before a paid vacation is given.

e. If a paid vacation is given (Yes to c), read this item as written. Record the length of the first paid vacation.

f. If a paid vacation is given (Yes to c), read this item as written. Record the length of time personnel must work to increase the length of the paid vacation.

g. If a paid vacation is given (Yes to c), read this item as written. Record the maximum length of paid vacation given to personnel.

h. Read the item as written and check Yes or No.

i. If paid sick leave days are given (Yes to h), read the item as written. Record the number of paid sick leave days given per year.

j. If paid sick leave days are given (Yes to h), read this item as written. Check either Yes or No.

k. Read this item as written and check Yes or No. The addition of a monetary value for meals to the salary of an employee for the purpose of retirement or social security benefits is not considered payment for meals. If the employee check actually shows a deduction in the amount of pay for meals, this is to be considered payment for meals.

l. Read this item as written and check Yes or No. We are interested in knowing whether the food service provides uniforms for its employees without charge.

m. Read this item as written and check Yes or No.

27. The following items refer to the fringe benefits provided for Non-supervisory Personnel. It is possible that some establishments will not have any policy concerning one or more of these benefits. In this case write NDP (No Definite Policy) in the space provided for the answer. If the policy differs for some employees, indicate these differences.

Refer to the instructions for 26a-m, as they correspond to 27a-m.

28. Read the item as written and check Yes or No. If the food service has a plan for the rotation of jobs among workers, ask the respondent to explain the rotation. Record the complete response. Rotation is a plan whereby workers are assigned to different jobs.

29. Read the item as written and check Yes or No.

30a. If the respondent provides training for his employees (Yes to 29) and if the food service has a Head Cook (from 20a), read this item as written. We are interested in specific examples of how the last Head Cook hired was trained. Record the response exactly as stated.

30b. If the respondent answered 30a, read this item as written. Record the length of the training period.

30c. If the respondent answered 30a, read this item as written. Record the job title (not the name) of the person who trained the Head Cook.

31a. If the respondent provides training for his employees (Yes to 29) and if the food service has a Dish Machine Operator (from 20a), read this item as written. We are interested in specific examples of how the last Dish Machine Operator hired was trained. Record the response exactly as stated.

31b. If the respondent answered 31a, read this item as written. Record the length of the training period.

31c. If the respondent answered 31a, read this item as written. Record the job title (not the name) of the person who trained the Dish Machine Operator.

32a. If the respondent provides training for his employees (Yes to 29) and if the food service has a Tray Girl (from 20a), read this item as written. We are interested in specific examples of how the last Tray Girl hired was trained. Record the response exactly as stated.

32b. If the respondent answered 32a, read this item as written. Record the length of the training period.

32c. If the respondent answered 32a, read this item as written. Record the job title (not the name) of the person who trained the Tray Girl.

33a. If the food service has a Head Cook (from 20a), read this item as written. The numbered lines have been provided to facilitate recording the responses. Record only one characteristic or skill on each line.

33b. If the respondent answered 33a, read this item as written. We want to know which characteristic or skill is most important to the manager. Circle only one number in 33a, indicating the most important characteristic or skill.

34a. If the food service has a Dish Machine Operator (from 20a), read this item as written. The numbered lines have been provided to facilitate recording the responses. Record only one characteristic or skill on each line.

34b. If the respondent answered 34a, read this item as written. We want to know which characteristic or skill is most important to the manager. Circle only one number in 34a, indicating the most important characteristic or skill.

35a. If the food service has a Tray Girl (from 20a), read this item as written. The numbered lines have been provided to facilitate recording the responses. Record only one characteristic or skill on each line.

35b. If the respondent answered 35a, read this item as written. We want to know which characteristic or skill is most important to the manager. Circle only one number in 35a, indicating the most important characteristic or skill.

36a. Read the item as written. Read the alternatives to the respondent and check Yes or No. We want those sources which the respondent has used in hiring new non-supervisory personnel, not those which he thinks would be a good source but doesn't use.

36b. Read the item as written. Circle only one response.

37. Read the item as written. Circle the number representing the highest number of school years completed.

38. Read the item as written. Record the response exactly as stated. If the response to 37 was over 13, ask for the respondent's major or area of specialization in school after high school.

39. Read the item as written. We are interested in knowing of anything which the respondent believes to be a problem in the effective operation of the food service department. Record the response exactly as stated.

Thank the respondent for his cooperation and give him a copy of "Sanitation of Food Service Establishments: A Guide for On-the-job Training of Personnel".

EVALUATION:

Answer the question on page 16 (pink) in your car immediately after concluding the interview. We would appreciate any general comments concerning the institution or the interview which you believe would be helpful in interpreting and evaluating the data collected.

REVISIONS OF INSTRUCTIONS AND THE INTERVIEW SCHEDULE
HOSPITALS, NURSING HOMES, AND CUSTODIAL HOMES

p. 2 4a. ON SCHEDULE:
(4) _____ PRIVATE INDIVIDUAL OR CORPORATION FOR PROFIT
(5) _____ NON-PROFIT ASSOCIATION OR CHARITABLE INSTITUTION

5b. ON SCHEDULE:
HOW MANY OTHER IN IOWA? _______

6b. ON SCHEDULE:
HOW MANY OTHER IN IOWA? _______

6d. ON SCHEDULE:
IS THE FOOD SERVICE MANAGED BY THE OWNER OF THE INSTITUTION?
YES _____ NO _____

7d. INSTRUCTIONS:
SPECIFY THE NUMBER OF BEDS TO BE ADDED AS TO TYPE: HOSPITAL (GENERAL OR EXTENDED CARE), NURSING HOME, OR CUSTODIAL HOME).

p. 3 7f. INSTRUCTIONS:
THE ANSWER TO THIS MAY BE YES EVEN THOUGH THE INSTITUTION DOES NOT HAVE A SPECIAL DEPARTMENT FOR THE TYPE OF PATIENT.

p. 4 8c and 8d DELETE

p. 5 10a. INSTRUCTIONS:
(0) ACCOUNTING - DERIVING FINANCIAL STATEMENTS AND KEEPING RECORDS FOR TAX PURPOSES
(3) COOKING - FOOD PRODUCTION
(15) INSTRUCTING PATIENTS ON DIETS - DIRECT CONTACT WITH PATIENTS - INSTRUCTING OR CONFERRING

10b. INSTRUCTIONS:
TELL RESPONDENT THAT ANSWER MAY BE YES, NO, OR NOT APPLICABLE

p. 6 12a. INSTRUCTIONS:
VENDING - ONLY IF FOOD SERVICE DEPARTMENT PROVIDES FOOD FOR THE MACHINES

12b. INSTRUCTIONS:
DO NOT LIST REGULAR COFFEE SERVICE

p. 7 15c, d, & e INSTRUCTIONS:
THE SUM OF THESE ITEMS SHOULD EQUAL THE TOTAL NUMBER OF LICENSED BEDS IN THE INSTITUTION

p. 8 20a INSTRUCTIONS:

TO QUALIFY AS MANAGEMENT AND SUPERVISORY PERSONNEL, DO NOT HAVE TO HAVE AUTHORITY TO HIRE OR DISCHARGE.

YOU MAY MAKE NOTE OF THE TITLES USED BY THE RESPONDENT IN THE MARGIN FOR YOUR REFERENCE ONLY.

DO NOT ASK THE OWNER-MANAGER FOR HIS OWN WAGES.

STARTING WAGES REFER TO THOSE WHICH WOULD BE PAID AT PRESENT FOR A NEW PERSON WITHOUT EXPERIENCE IN JOB.

THE "NUMBER OF PERSONS" REFERS TO THOSE NOW EMPLOYED.

DO NOT LIST MORE THAN 4 NUMBERS IN JOB TITLE COLUMN (A COMMENT MAY BE MADE IN MARGIN IF NEEDED)

DO ASK ABOUT TIPS.

DEFINITIONS:

(8) FOOD PRODUCTION SUPERVISOR - SAME AS FOOD SERVICE SUPERVISOR, EXCEPT SUPERVISES FOOD PRODUCTION WORKERS.

(30) SECRETARY OR CLERK - A PERSON WHO HANDLES OFFICE DUTIES, SUCH AS: KEEPING RECORDS, FILING, CORRESPONDING, ANSWERING TELEPHONE, BOOKKEEPING, ETC.

p. 9 21a. LAST LINE SHOULD READ 20d.

21b. LAST LINE SHOULD READ 20g.

p. 10 22 ON SCHEDULE:

DO ANY EMPLOYEES WORK PART-TIME IN THE FOOD SERVICE DEPARTMENT AND PART-TIME IN ANOTHER DEPARTMENT?

INSTRUCTIONS:

WAGES ON p. 8 SHOULD BE FOR THE AMOUNT EARNED IN THE FOOD SERVICE DEPARTMENT.

p. 11 26 INSTRUCTIONS:

DO NOT ASK OF OWNER-MANAGER. IF THERE ARE NO OTHER MANAGEMENT AND SUPERVISORY PERSONNEL.

27 INSTRUCTIONS:

FILL IN EVEN IF NON-SUPERVISORY PERSONNEL HAVE SAME BENEFITS AS MANAGEMENT AND SUPERVISORY PERSONNEL.

p. 14 36a & 36b DELETE

p. 15 38 INSTRUCTIONS:

IF RESPONDENT INDICATES SHE HAS A BACHELOR'S DEGREE WITH A MAJOR RELATED TO FOOD SERVICE, ASK HER IF SHE IS A MEMBER OF THE AMERICAN DIETETIC ASSOCIATION. IF SHE IS NOT, ASK HER IF SHE IS NOW WORKING TOWARD MEETING MEMBERSHIP REQUIREMENTS. CHECK TO SEE THAT YOU HAVE USED THE CORRECT TITLE ON PAGE 8.

12. (1) GENERAL DIET

The diet for those patients with no dietary restrictions. Usually the basis for modified diets.

12. (2) MODIFIED DIETS

Any diet prepared in the kitchen which is different from the general diet. This includes liquid, ulcer, mechanical soft, bland, sodium restricted, diabetic, residue restricted, calorie restricted, allergy, and any other dietary restriction.

20. (2) DIETITIAN, ADMINISTRATIVE

Organizes, plans, and directs food-service programs, applying principles of nutrition and management to menu planning and food preparation and service and instructs individuals and groups in application of principles of nutrition. Develops standards of sanitation and for selecting, inspecting, and purchasing food, equipment, and supplies. Supervises selection and training of nonprofessional food-service personnel. Prepares reports of financial management, safety practices, and program efficiency. Evaluates physical layout and equipment, employee utilization, and work procedures, and coordinates dietary service with those of other departments to increase effectiveness of program.

20. (3) DIETITIAN, THERAPEUTIC

A dietitian who plans and directs preparation and service of diets prescribed by a physician. Consults medical, nursing, and social service staffs concerning problems affecting patients' food habits and needs. Formulates menus for therapeutic diets based on indicated physiologic and psychologic needs of patients and integrates them with basic institutional menus. Inspects meals served for conformance to prescribed diets and standards of palatability and appearance. Instructs patients and their families on the requirements and importance of their modified diets, and on how to plan and prepare the food. May engage in research. May teach nutrition and diet therapy to dietetic interns, medical and nursing staff, and students.

20. (5) FLOOR SUPERVISOR

A person who supervises production and/or service of food to patients, usually on the patient's floor.

20. (9) DIETARY AIDE

A person who provides direct supervision of food production or service workers and is responsible to a food production or service supervisor; may act as an assistant to other supervisory personnel.

TRAINING INFORMATION SHEET

Institution Management Department
Iowa State University
Ames, Iowa

Training for managers and supervisors

If training were made available to you or your supervisors, what areas of training would be most beneficial to you? Would you please indicate by a check ✓ in the appropriate box, the degree of need you believe exists for training for you or your supervisors.

Training in:

	Little Need	Some Need	Great Need
1. How to buy food			
2. How to prepare and serve quality food in quantity			
3. How to plan menus			
4. How to obtain and select good employees			
5. How to supervise employees and develop good interpersonal relations			
6. How to train employees			
7. How to give good service			
8. How to maintain high standards of sanitation			
9. How to select and arrange kitchen equipment			
10. How to control food costs and records needed			
11. How to control labor costs and records needed			
12. How to control other costs and records needed			
13. How to handle cash and records needed			
14. Other subjects you feel should be included:			

If training could be given in only 3 of the above subjects, please circle the number of the 3 you would choose.

If training were made available to you, check months of the year you would prefer.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.

Check how often in the week you would prefer training sessions.

1 day	2 days	3 days	4 days	5 days

Please check the time periods that you would be most available.

8 a.m.-9	9-10	10-11	11-12	12-1 p.m.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10

If the time periods indicated above were followed, check how far you would drive to attend.

10 miles	25 miles	50 miles	100 miles	more than 100

Would you attend such a course if it were given?	Yes	No
Would you make it possible for your supervisor to attend?	Yes	No

Training for your employees

If training programs were made available to your employees, what areas of training would be most beneficial to them? The training subjects are grouped by type of job, using the cook and waitress as examples. Would you please indicate by a check ✓ in the appropriate box, the degree of need you believe exists.

Cook Training in:	Little Need	Some Need	Great Need
1. How to be more dependable, responsible, likeable			
2. How to prepare quality foods in quantity			
3. How to maintain high standards of sanitation			
4. How to improve and simplify work methods			
5. How to control cost of food			
6. Other subjects:			

If training could be given in only 3 of the above subjects, circle the number of the 3 you would choose.

Waitress Training in:	Little Need	Some Need	Great Need
1. How to be more dependable, responsible, likeable			
2. How to look well groomed on the job			
3. How to maintain high standards of sanitation			
4. How to give good service			
5. How to handle cash and make out bills			
6. Other subjects:			

If training could be given in only 3 of the above subjects, please circle the number of the 3 you would choose.

If training were made available to your employees, check months of the year you would prefer.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.

Check how often in the week you would prefer training sessions.

1 day	2 days	3 days	4 days	5 days

Please check the time periods that your employees would be most available.

8 a.m.-9	9-10	10-11	11-12	12-1 p.m.	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10

If the time periods indicated above were followed, check how far they would drive to attend?

10 miles	25 miles	50 miles	100 miles	More than 100 mi.

Would you make it possible for your employees to attend such a course?	Yes	No
Would you require that your employees attend?	Yes	No
Would you pay your employees while they attended?	Yes	No

Any comments you may have would be appreciated. Please use the back of the sheet.

Fill in your name and address if you wish:

Name ____________________ Address ____________________

Table 10. Relative need for training of managers and supervisors classified by annual sales volume of restaurant[1]

			Annual sales volume					
Training area	Total		Low		Middle		High	
	M	E	M	E	M	E	M	E
	%	%	%	%	%	%	%	%
Control food costs	78.2^1	74.3^5	77.6^1	76.0^3	78.6^1	80.0^3	80.0^2	68.0
Control labor costs	74.0^2	82.8^3	72.2^2	76.0^3	74.4^4	90.0^2	81.0^1	84.0^2
Obtain, select employees	72.4^3	80.0^4	67.3	84.0^2	77.8^2	90.0^2	77.9^3	68.0
Supervise employees	70.8^4	85.7^2	68.0	84.0^2	74.8^3	80.0^3	71.8^6	92.0^1
Buy food	69.0	66.2	72.2^2	76.0^3	63.0	70.0	74.9^4	50.0
Prepare quality food	67.7	80.0^4	65.4	92.0^1	68.9	80.0^3	74.2^5	68.0
Train employees	67.5	88.6^1	67.3	84.0^2	67.4	100.0^1	68.6	84.0^2
Give good service	66.7	71.4^6	68.7	68.0	65.0	80.0^3	62.3	68.0
Maintain good sanitation	60.4	71.4^6	60.0	68.0	61.6	70.0	58.6	76.0^3
Plan menus	59.4	74.3^5	61.8	76.0^3	53.6	80.0^3	66.6	68.0

[1] Rank order is shown when percentage is above 70.

M - Restaurant manager
E - Restaurant educator

Table 11. Relative need for training of cooks classified by annual sales volume of restaurant[1]

	Annual sales volume							
Training area	Total		Low		Middle		High	
	M	E	M	E	M	E	M	E
	%	%	%	%	%	%	%	%
Control food costs	79.3^1	61.4	79.1^2	60.0	78.6^1	70.0	82.6^1	56.0
Improve work methods	78.4^2	94.3^1	82.9^1	92.0^1	71.8^2	90.0^1	81.4^2	100.0^1
Maintain good sanitation	64.4	91.4^2	73.3^3	92.0^1	56.8	90.0^1	48.1	92.0^2
Prepare quality food	63.4	82.8^3	68.9	92.0^1	54.8	80.0^2	68.5	76.0^3
Improve personal qualities	60.4	62.9	58.3	60.0	63.2	60.0	62.0	68.0

[1] Rank order is shown when percentage is above 70.

M - Restaurant manager
E - Restaurant educator

Table 12. Relative need for training of waitresses classified by annual sales volume of restaurant[1]

Training area	Total		Low		Middle		High	
			Annual sales volume					
	M	E	M	E	M	E	M	E
	%	%	%	%	%	%	%	%
Give good service	80.0^{1}	96.9^{1}	78.0^{1}	100.0^{1}	80.7^{1}	100.0^{1}	86.4^{1}	92.0^{1}
Improve personal qualities	72.6^{2}	75.4^{3}	72.0^{2}	84.0^{3}	74.3^{2}	73.3^{2}	69.0	68.0
Handle cash, bills	70.9^{3}	69.2	71.4^{3}	68.0	70.0^{3}	73.3^{2}	71.4^{2}	68.0
Maintain good sanitation	67.9	93.8^{2}	69.1	92.0^{2}	66.4	100.0^{1}	67.3	92.0^{1}
Look well groomed	65.9	69.2	65.7	76.0^{4}	67.4	73.3^{2}	61.2	60.0

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[1] Rank order is shown when percentage is above 70.

M - Restaurant manager
E - Restaurant educator

APPENDIX B

INTERVIEW SCHEDULE
(Food Service Employees)

Present job ______________________________

Other kinds of food service jobs held ______________________________

____

Years in food service work ________________

Other jobs held ____

1. Why did you take a job as a (waitress, cook, hostess)?

2. What do you like about this kind of job?

3. What don't you like about this kind of job?

4. How does your (husband, wife, parents, children) feel about your job?

5. Do you feel your job is important?

6. Do others such as friends, neighbors, customers seem to feel this is an important job?

7. Do you feel special training should be given to persons planning to become (waitresses, cooks, hostesses)?

INTERVIEW SCHEDULE
(Cosmetology Trainees)

Previous jobs (full-time or part-time) ______________________________

1. Why did you choose this vocation?

2. Did you consider any other occupation, such as food service occupations?

3. Why or why not?

4. If you did take a food service job sometime, would you rather be a waitress or a cook? Why?

5. When you are a parent, would you let your son or daughter take a food service job?

6. Why or why not?

ATTITUDE QUESTIONNAIRE (Boys)

We would like to know how young people feel about some different jobs. These jobs require different kinds of skills, abilities, interests and training. There are 16 items on this questionnaire. Each item consists of one pair of jobs and two incomplete sentences about those jobs.

From each pair of jobs listed, select the job you would like better than the other one, place it on the blank in the first sentence, and then complete the sentence by giving the reason why you would prefer this job over the other one. Place the remaining job in the blank in the second sentence and give the reason or reasons why you would not prefer this job.

Example: 1. Carpenter--Truck driver.

I would rather be a carpenter because I enjoy making things and working with my hands.

I would rather not be a truck driver because I would get tired of sitting for hours at a time.

Please respond to each item. You may list more than one reason for your choice.

1. Waiter -- Taxi driver

I would rather be a ________________ because ________________
____
____

I would rather not be a ________________ because ________________
____
____

2. Busboy in a restaurant (clears tables, carries dishes to kitchen) -- Janitor

I would rather be a ________________ because ________________
____
____

I would rather not be a ________________ because ________________
____
____

3. Bookkeeper -- Insurance agent

I would rather be a (an) ____________________ because ____________
____
____

I would rather not be a (an) ____________________ because ________
____
____

4. Truck driver -- Cook in a restaurant

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ____________
____
____

5. Construction worker -- Waiter

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ____________
____
____

6. Dishwasher -- Garbage collector

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ____________
____
____

7. Cook in a private club -- Salesperson in a store

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ____________
____
____

8. Porter in a hotel -- Busboy in a cafeteria (clears tables, carries dishes to kitchen)

I would rather be a ____________________ because ____________________
____
____

I would rather not be a ____________________ because ______________
____
____

9. Waiter in a restaurant -- Farmhand

I would rather be a ____________________ because ____________________
____
____

I would rather not be a ____________________ because ______________
____
____

10. Meat packer -- Cook in a cafeteria

I would rather be a ____________________ because ____________________
____
____

I would rather not be a ____________________ because ______________
____
____

11. Building contractor -- Public school teacher

I would rather be a ____________________ because ____________________
____
____

I would rather not be a ____________________ because ______________
____
____

12. Host in a private club -- Bookkeeper

I would rather be a ____________________ because ____________________
____
____

I would rather not be a ____________________ because ______________
____
____

13. Baker's assistant -- Waiter in a restaurant

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ____________
____
____

14. Lawyer -- Dentist

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ____________
____
____

15. Filling station attendant -- Cook in a restaurant

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ____________
____
____

16. Host in a private club -- Barber

I would rather be a ______________________ because ______________
____
____

I would rather not be a ____________________ because ____________
____
____

ATTITUDE QUESTIONNAIRE (GIRLS)

We would like to know how young people feel about some different jobs. These jobs requireddifferent kinds of skills, abilities, interests, and training. There are 16 items on this questionnaire. Each item consists of one pair of jobs and two complete sentences about those jobs.

From each pair of jobs listed, select the job you would like better than the other one, place it on the blank in the first sentence, and then complete the sentence by giving the reason why you would prefer this job over the other one. Place the remaining job in the blank in the second sentence and give the reason or reasons why you would not prefer this job.

Example: 1. Office receptionist -- Nursery school teacher

I would rather be a nursery school teacher because I enjoy working with young children.

I would rather not be a (an) office receptionist because I would not like sitting at a desk all the time.

Please respond to each item. You may list more than one reason for your choices.

1. Waitress -- Maid in a motel

I would rather be a ____________________ because ____________________
____
____

I would rather not be a ____________________ because ______________
____
____

2. Private housekeeper -- Cook in a restaurant

I would rather be a ____________________ because ____________________
____
____

I would rather not be a ____________________ because ______________
____
____

3. Stenographer -- Payroll Clerk

I would rather be a ____________________ because ________________

____

____

I would rather not be a ____________________ because ____________

____

____

4. Soda fountain clerk -- Bus girl in a cafe. (Clears tables, carries dishes to kitchen)

I would rather be a ____________________ because ________________

____

____

I would rather not be a ____________________ because ____________

____

____

5. Baker -- Cashier in a restaurant

I would rather be a ____________________ because ________________

____

____

I would rather not be a ____________________ because ____________

____

____

6. Stock clerk in a clothing store -- waitress

I would rather be a ____________________ because ________________

____

____

I would rather not be a ____________________ because ____________

____

____

7. Cook in a hospital -- Telephone operator

I would rather be a ____________________ because ________________

____

____

I would rather not be a ____________________ because ____________

____

____

8. Clothes presser in a laundry -- Bus girl in a cafe (Clears tables, carries dishes to kitchen)

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ______________
____
____

9. General office worker -- Hostess in a restaurant

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ______________
____
____

10. Cosmetologist -- Cook in a college cafeteria

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ______________
____
____

11. Baker's assistant -- Waitress

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ______________
____
____

12. Bank cashier -- Buyer for a department store

I would rather be a ____________________ because ________________
____
____

I would rather not be a ____________________ because ______________
____
____

13. Dress alterator -- Cashier in a cafeteria

I would rather be a ____________________ because ______________

____

____

I would rather not be a ____________________ because ____________

____

____

14. Salesperson in a store -- Cook in a restaurant

I would rather be a ____________________ because ______________

____

____

I would rather not be a ____________________ because ____________

____

____

15. Hostess in a restaurant -- Seamstress

I would rather be a ____________________ because ______________

____

____

I would rather not be a ____________________ because ____________

____

____

16. Teacher in a public school -- Dietitian in a hospital

I would rather be a ____________________ because ______________

____

____

I would rather not be a ____________________ because ____________

____

____

ATTITUDE TOWARD BEING A WAITER

(Final Form)

On this page are a number of statements about being a waiter. At the left-hand side you will see the letters SA A U D SD printed for each statement. Read each statement carefully and decide whether you strongly agree with it, agree with it, are undecided about it, disagree with it, or strongly disagree with it.

If you strongly agree with the statement, then circle (SA)
If you agree with the statement, then circle (A)
If you are undecided about the statement, then circle (U)
If you disagree with the statement, then circle (D)
If you strongly disagree with the statement, then circle (SD)

Circle only one response for each statement. Do not skip any statements. There are no right or wrong answers. Each response should tell how you feel about the statement.

*SA A U D SD 1. As a waiter, I feel I would be doing something worthwhile.
*SA A U D SD 2. I have always wanted to be a waiter.
SA A U D SD 3. Being a waiter would be drudgery.
SA A U D SD 4. Being a waiter requires less education than most occupations.
*SA A U D SD 5. Being a waiter would be an interesting job.
SA A U D SD 6. Being a waiter is monotonous.
*SA A U D SD 7. Waiters are skilled persons.
*SA A U D SD 8. I would be willing to let my son be a waiter.
*SA A U D SD 9. All waiters should be required to have special training.
*SA A U D SD 10. I like to work with people.
*SA A U D SD 11. This is a good job for young people who want to get ahead.
SA A U D SD 12. You need a strong back and a weak mind to be a waiter.
*SA A U D SD 13. I could get along on a waiter's salary.
*SA A U D SD 14. Being a waiter is a desirable job.
SA A U D SD 15. I wouldn't like working on holidays when everyone else is relaxing.
SA A U D SD 16. Anyone can be a waiter.
*SA A U D SD 17. I would enjoy serving food to people.
SA A U D SD 18. A waiter gets ordered around by too many people.
*SA A U D SD 19. A waiter gets to meet many interesting people.
SA A U D SD 20. Waiting tables isn't a man's job.
SA A U D SD 21. I wouldn't like a job which has broken work hours.
SA A U D SD 22. Table waiting is degrading work.

ATTITUDE TOWARD BEING A WAITER (Continued)

*SA A U D SD 23. Jobs as waiters are good for someone who wants to get ahead.
SA A U D SD 24. Customers think they are better than waiters.
SA A U D SD 25. You can't be a man and a waiter too.
*SA A U D SD 26. I would enjoy the variety of activity in being a waiter.
*SA A U D SD 27. Being a good waiter is an art.

*Indicates items scored as favorable; i.e., 5,4,3,2,1.

ATTITUDE TOWARD BEING A WAITRESS
(Final Form)

On this page are a number of statements about being a waitress. At the left-hand side you will see the letters SA A U D SD printed for each statement. Read each statement carefully and decide whether you strongly agree with it, agree with it, are undecided about it, disagree with it, or strongly disagree with it.

If you strongly agree with the statement, then circle SA
If you agree with the statement, then circle A
If you are undecided about the statement, then circle U
If you disagree with the statement, then circle D
If you strongly disagree with the statement, then circle SD

Circle only one response for each statement. Do not skip any statements. There are no right or wrong answers. Each response should tell how you feel about the statement.

*SA A U D SD 1. As a waitress, I feel I would be doing something worthwhile.
*SA A U D SD 2. I have always wanted to be a waitress.
SA A U D SD 3. Waitress work is drudgery.
SA A U D SD 4. I wouldn't be a waitress under any circumstances.
*SA A U D SD 5. Being a waitress would be an interesting job.
SA A U D SD 6. Being a waitress requires less education than most occupations.
*SA A U D SD 7. Waitresses are skilled persons.
*SA A U D SD 8. I would be willing to let my daughter be a waitress.
SA A U D SD 9. Waitress work is monotonous.
*SA A U D SD 10. All waitresses should be required to have special training.
*SA A U D SD 11. I like to work with people.
SA A U D SD 12. Waitress jobs are dead-end jobs.
*SA A U D SD 13. This is a good job for young people who want to get ahead.
SA A U D SD 14. You need a strong back and a weak mind to be a waitress.
*SA A U D SD 15. Being a waitress is a desirable job.
SA A U D SD 16. Anyone can be a waitress.
SA A U D SD 17. Waitress work is too hard.
*SA A U D SD 18. Waitresses are public servants.
*SA A U D SD 19. A waitress gets to meet many interesting people.
SA A U D SD 20. Waitresses don't have very good morals.
SA A U D SD 21. Table waiting is degrading work.

ATTITUDE TOWARD BEING A WAITRESS (Continued)

*SA A U D SD 22. Waitresses are just as good as anybody else.
*SA A U D SD 23. Waitress jobs are good for someone who wants to get ahead.
*SA A U D SD 24. I would enjoy the variety of activity in being a waitress.
*SA A U D SD 25. Being a waitress is an art.

*Indicates items scored as favorable; i.e., 5,4,3,2,1.

ATTITUDE TOWARD COMMERCIAL COOKING
(Final Form)

On this page are a number of statements about the occupation of commercial cooking. At the left-hand side of each question you will see the letters SA A U D SD. Read each statement carefully and decide whether you strongly agree with it, agree with it, are undecided about it, disagree with it, or strongly disagree with it.

If you strongly agree with the statement, then circle SA
If you agree with the statement, then circle A
If you are undecided about the statement, then circle U
If you disagree with the statement, then circle D
If you strongly disagree with the statement, then circle SD

Circle only one response for each statement. Do not skip any statements. There are no right or wrong answers. Each response should tell how you feel about the statement.

*SA A U D SD 1. As a cook, I feel I would be doing something worthwhile.
SA A U D SD 2. Cooking is drudgery.
*SA A U D SD 3. I have always wanted to be a cook.
SA A U D SD 4. I wouldn't be a cook under any circumstances.
SA A U D SD 5. Cooking is monotonous work.
SA A U D SD 6. Cooking requires less education than most other occupations.
*SA A U D SD 7. Cooks are skilled persons.
SA A U D SD 8. Cooks don't get to work in nice surroundings.
*SA A U D SD 9. I would enjoy preparing food to please other people.
*SA A U D SD 10. Being a cook would be an interesting job.
SA A U D SD 11. I wouldn't like working in a hot kitchen.
*SA A U D SD 12. I would be willing to let my son or daughter be a cook.
SA A U D SD 13. A cook's pay isn't good enough to support a family.
*SA A U D SD 14. Cooking would be a very desirable occupation.
SA A U D SD 15. You need a strong back and a weak mind to do this job.
SA A U D SD 16. Cooks don't get to meet many interesting people.
*SA A U D SD 17. This is a good occupation for young people who want to get ahead.
*SA A U D SD 18. A cook is the most important employee in the restaurant.
SA A U D SD 19. Cooking is too routine.

ATTITUDE TOWARD COMMERCIAL COOKING (Continued)

SA A U D SD 20. I would not like working on holidays when everyone else is relaxing.
*SA A U D SD 21. Cooking is a satisfying job.
SA A U D SD 22. There is too much pressure on a cook to get things done on time.
*SA A U D SD 23. Great skill is required to be a cook.

*Indicates items scores as favorable; i.e., 5,4,3,2,1.

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY
Ames, Iowa 50010

DEPARTMENT OF HOME ECONOMICS EDUCATION

____
Principal or Counselor
____________ High School
________________, Iowa

Dear ________________:

The Home Economics Education and Institution Management Departments of Iowa State University are conducting research on Bases for Vocational Education for Food Service Industry Employees, a project funded by the U. S. Office of Education. This research includes the development of inventories measuring attitudes toward certain food service jobs. Later these inventories will be available for guidance purposes in high schools and in area vocational training programs.

As part of the development of these instruments, we need to have them administered to twenty 11th and 12th grade students in twenty-four high schools. Your school was drawn in the sample of Iowa schools, so we hope that you can participate.

The inventories can be completed in approximately fifty minutes. If you would be willing to help, please check Yes on the enclosed post card and return it to us. Materials for administration and instructions for the selection of students will be mailed to you.

Thank you for considering our request for assistance.

Sincerely yours,

Alberta D. Hill
Head, Department of
Home Economics Education

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY
Ames, Iowa 50010

DEPARTMENT OF HOME ECONOMICS EDUCATION

April 17, 1967

____
____________ High School
__________________, Iowa

Dear _______________________:

Thank you for agreeing to help with our research project, Bases for Vocational Education for Food Service Industry Employees. We appreciate the positive response we have received from Iowa high school counselors and administrators.

The materials to be administered to your pupils and the directions for their administration are enclosed with this letter. We hope these materials will be self-explanatory. However, if questions do arise, please call Mrs. Margaret Arcus, the research assistant for this project, at 515-294-4384 for assistance.

We would appreciate having these materials returned to us at the earliest possible date. Thank you for your cooperation.

Sincerely yours,

Alberta D. Hill
Head, Department of
Home Economics Education

ADH:ckc

Enclosure

RETURN CARD

Dear Dr. Hill:

____________ Yes, we will help in this research project.

Please send materials and instructions to:

Name ____________________________________

School __________________________________

Address _________________________________

____________ No, we will not be able to participate.

____
(Signed)

DIRECTIONS TO PUPILS

WE NEED YOUR HELP!

The College of Home Economics of Iowa State University is conducting a research project on education for wage-earning occupations and we would like to know how Iowa high school students feel about some of these jobs.

The materials included here are not a test. There are no right or wrong answers to any of the questions. The first two parts ask how you feel about the job identified in the section title. The third part asks for your preferences among the jobs listed. Specific directions are included with the items in each part.

Please respond to every item in each part. Record all of your responses on the response sheet provided. Check over your responses after you have finished to be sure there have been no omissions.

We are also requesting some information about you. Please fill in the information requested on the back of the response sheet. This information will be used for research purposes only.

Thank you for your assistance. We appreciate the contribution you are making to our research effort.

DIRECTIONS FOR ADMINISTRATION OF RESEARCH MATERIALS

SELECTION PROCEDURE

The enclosed research materials are to be administered to the students in one junior home room and one senior home room in your high school. These two home rooms are to be selected by the procedure indicated below. In order to insure a random sample of home rooms, please follow this procedure exactly. Do not use any other selection method (such as selecting the home room with the highest number of students or the home room that is first on the list.)

> (NOTE: If your high school does not have home rooms, please send us an alphabetical listing of all juniors and all seniors in your school. We will make the selection of students and return the information to you.)

PROCEDURE

1. List all junior home rooms by number in ascending order. Give each home room a two-digit identification number.

Example:	Home Room Number	Identification Number
	Home Room 115	01
	Home Room 137	02
	Home Room 158	03
	..	..
	Home Room 248	10

Note: If home rooms are identified by some means other than numbers (such as letters), please list them alphabetically and then give them identification numbers.

2. List all senior home rooms, following the same procedure as that for junior home rooms.

3. To select the home room from the junior home room list which will respond to the materials, use the procedure described below:

    a. Use the Table of Random Numbers attached to this sheet. Make a random start by closing your eyes and placing the point of a pencil on this Table.
    b. If the point of the pencil is not directly on any digit, move the point in any direction to the nearest digit.
    c. Since each home room has been identified by a two-digit number, it is necessary to work with pairs of digits. Take the digit found by pointing the pencil and the next digit to the right to make a two-digit number. For example, in the series 52026, suppose the pencil pointed to 0. The next number to the right is 2, so the two-digit number is 02.
    d. This two-digit number identifies the home room which will be asked to respond to the reserach materials.

e. If the two-digit number selected is greater than any of the numbers assigned to the home rooms on the list, take the next two numbers to the right. Continue this procedure, always working in pairs of digits, until you find a two-digit number which corresponds to any identification number on your list. (If this procedure brings you to the end of a row of numbers, move to the beginning of the next row and continue working in pairs of digits.)

4. Follow this same procedure with the senior home room list, making a new random start as in 3-a.

5. When the two home rooms have been selected, prepare for the administration of the materials as directed below.

ADMINISTRATION PROCEDURE

Allow approximately fifty minutes for the administration of these materials. Many students may be able to finish in less time. These materials may be administered to the students as a group or to students individually.

Hand out the sets of materials to the students. For your convenience, the sets of materials for boys are printed on green paper and the sets for girls are printed on yellow paper.

Go over the directions with the students. The key points to stress are:

1) since this is not a test, there are no right or wrong answers. Students should respond to each item on the basis of how he feels about it.
2) All students are to respond to all items. Students may ask questions about the meaning of words if they do not understand an item.
3) all responses are to be recorded on the response sheet provided.
4) the information requested of each student is necessary for research purposes only.

After they have finished, ask students to check their response sheets again to see that nothing has been omitted. It is essential that students respond to all items.

ADDITIONAL INFORMATION

Before returning the response sheets, please include two items of information about the student on the bottom of his information sheet. The items of information requested are:

1. ITED percentile score (percentile based on national norms). If you do not have the national percentile score, then record the raw score and write RAW SCORE beside it.

2. Father's occupation, as specifically as possible ("farm owner-operator" or "farm tenant" rather than "farmer"). If the father is not the breadwinner in the family, please indicate who is (mother, guardian, stepfather, etc.) and give their occupation.

This additional information is requested for use in the analysis of the student responses.

When the response sheets have been completed by the students and the additional information has been added, return the response sheets only in the enclosed self-addressed envelope. All other research materials may be discarded. Please return the response sheets as soon as possible.

If there are any questions or if any problems arise, please call Mrs. Margaret Arcus, research assistant on this project, at 515-294-4384 for assistance.

A copy of the final results of this project will be mailed to you if you request this information.

WHICH JOB WOULD YOU LIKE?
(Form for girls)

Each set of occupations listed below contains occupations selected from a broad occupational area. From each set of three jobs, place an X beside the one job you would most like to do. Please respond to each set of occupations even though you do not plan to enter that occupational area.

Example: _____ Musician in a symphony
_____ Singer in a night club
__X__ Musician in a dance band

1. 1* a. Dress designer
   3 b. Laundry worker (in a commercial laundry)
   2 c. Dressmaker (in own home)

2. 2 a. Waitress in a restaurant
   3 b. Dishwasher in a restaurant
   1 c. Dietitian

3. 3 a. Alterations person in a clothing store (changes hems, etc.)
   2 b. Salesperson in a department store
   1 c. Buyer for a department in a large store

4. 1 a. Certified Public Accountant
   3 b. Billing clerk for a large company (prepare statements for customers)
   2 c. Bank cashier

5. 3 a. Assistant in a nursery school
   1 b. Teacher in a college or university
   2 c. Teacher in a public school (elementary school)

6. 2 a. Steno-typist in a large office
   1 b. Personnel manager for a large company (interviews people for jobs)
   3 c. Telephone switchboard operator for a large business or store

7. 1 a. Art teacher in a high school
   3 b. Florist's helper (help arrange flowers, make corsages, etc.)
   2 c. Display manager for a department store (in charge of setting up displays in store windows, coordinates store decorations)

* Numerals in blanks indicate the weights assigned

WHICH JOB WOULD YOU LIKE?
(Form for boys)

Each set of occupations listed below contains occupations selected from a broad occupational area. From each set of three jobs, place an X beside the one job you would most like to do. Please respond to each set of occupations even though you do not plan to enter that occupational area.

Example: _____ Musician in a symphony
_____ Singer in a night club
__X__ Musician in a dance band

1. __3*__ a. Custodian in an office building
__1__ b. Hotel manager
__2__ c. School maintenance engineer

2. __2__ a. State highway patrolman
__1__ b. County judge
__3__ c. Guard

3. __2__ a. General contractor
__3__ b. Construction laborer
__1__ c. Construction engineer

4. __3__ a. Dishwasher in a restaurant
__2__ b. Cook in a restaurant
__1__ c. Manager of a restaurant

5. __3__ a. Stockhandler
__1__ b. Farm owner-operator
__2__ c. Farm tenant (rents land)

6. __2__ a. Auto repairman
__3__ b. Service station attendant (not a manager or lessee)
__1__ c. Automobile dealer

7. __3__ a. Salesperson in a store
__1__ b. Manager of a large department store
__2__ c. Owner of a small store

8. __1__ a. Banker (executive officer)
__2__ b. Bank examiner
__3__ c. Bank cashier

* Numerals in blanks indicate the weights assigned

INFORMATION SHEET
(High School Pupils)

Name ____

Please respond to the following questions by placing an (x) on the correct line.

1. What grade are you in?

___0*___ 11th grade

___1___ 12th grade

2. Where do you live?

___0___ On a farm

___1___ In a community of less than 1,000 population

___2___ In a community of 1,000-9,999 population

___3___ In a community of 10,000-50,000 population

___4___ In a community of over 50,000 population

3. Have you ever had a part-time or full-time job?

___0___ Yes

___1___ No

If the answer to the question above is Yes, did you ever have a part-time or a full-time job in food service (jobs such as waiter, waitress, cook, busboy, carhop, etc.)?

___1___ Yes

___2___ No

* Numerals in the blanks indicate the weights assigned. I.T.E.D. information was coded 1 to 9; father's occupation 3 to 9.

INFORMATION SHEET (Adults)

We do not want your name, but we would like some information about you:

What is the occupation of the head of the household?

____

Indicate, with an X, your age range.

15 to 19 _____
20 to 29 _____
30 to 39 _____
40 to 49 _____
50 to 59 _____
60 and over _____

Indicate the number of years of school you have completed. Circle one number.

Elementary Grades 1 2 3 4 5 6 7 8
High School 1 2 3 4
College 1 2 3 4 5 6

Have you had any technical education such as practical nurse, beautician, barber, welder, etc.? Yes _____ No _____.

If yes, indicate what type of work this prepared you for ________

____

Have you ever had a job in a cafe or lunchroom? Yes _____ No _____.

If so, did you like this kind of work? Yes _____ No _____.

If not, do you think you would like this kind of work? Yes _____
No _____.

Any additional comments you may wish to make about jobs in food service:

Table 8. Differences between means of criterion groups of girls and women for the inventory, Attitude Toward Being a Waitress

Items	Differences Girls	 Women
1. As a waitress, I feel I would be doing something worthwhile.	1.208	1.125
2. Being a waitress would be all right if I couldn't find any other job.	a	a
3. I have always wanted to be a waitress.	.944	1.125
4. Waitress work is drudgery.	1.056	1.000
5. I wouldn't be a waitress under any circumstances.	.931	1.250
6. Being a waitress requires less education than most occupations.	.472	1.750
7. Being a waitress would be an interesting job.	1.222	.875
8. Waitress work is monotonous.	.458	1.250
9. Waitresses are skilled persons.	1.278	1.625
10. I would be willing to let my daughter be a waitress.	.597	1.375
11. All waitresses should be required to have special training.	.444	1.125
12. I like to work with people.	.389	.500
13. Waitresses are well paid considering the amount of education they have.	a	a
14. Waitress jobs are dead-end jobs.	1.528	1.375
15. This is a good job for young people who want to get ahead.	1.111	1.125
16. You need a strong back and a weak mind to be a waitress.	.361	.875
17. A waitress is the most important employee in the restaurant.	a	a

Table 8. (Continued)

Items	Differences Girls	Women
18. I could get along on a waitress's salary.	.250	.375
19. Being a waitress is a desirable job.	1.222	1.250
20. I wouldn't like working on holidays when everyone else is relaxing.	.708	.125
21. Anyone can be a waitress.	.222	.500
22. Waitresses have to work longer and harder than people in most other jobs.	.625	.125
23. Waitress work is too hard.	.764	.750
24. I would enjoy serving food to people.	1.319	.250
25. A waitress gets ordered around by too many people.	.153	.750
26. Waitresses are public servants.	.764	.875
27. A waitress gets to meet many interesting people.	.486	1.125
28. A waitress doesn't have very good morals.	.403	.750
29. I wouldn't like a job which has broken work hours.	a	a
30. Table waiting is degrading work.	.208	.625
31. Waitresses are just as good as anybody else.	.847	.625
32. Waitress jobs are good for someone who wants to get ahead.	.653	1.500
33. Customers think they are better than waitresses.	a	a
34. I would enjoy the variety of activity in being a waitress.	.917	1.000
35. Being a good waitress is an art.	.681	.875

[a] In Tables 8, 9, and 10 differences between groups are omitted when they were not in the expected direction.

Table 9. Differences between mean of criterion groups of boys for the inventory, Attitude Toward Being a Waiter

	Items	Differences
1.	As a waiter, I feel I would be doing something worthwhile.	.361
2.	Being a waiter would be all right if I couldn't find any other job.	.194
3.	I have always wanted to be a waiter.	.667
4.	Being a waiter would be drudgery.	.389
5.	I wouldn't be a waiter under any circumstances.	.139
6.	Being a waiter requires less education than most occupations.	1.167
7.	Being a waiter would be an interesting job.	1.819
8.	Being a waiter is monotonous.	1.222
9.	Waiters are skilled persons.	.986
10.	I would be willing to let my son be a waiter.	.708
11.	All waiters should be required to have special training.	.917
12.	I like to work with people.	.736
13.	Waiters are paid well considering the amount of education they have.	a
14.	A job as a waiter is a dead-end job.	a
15.	This is a good job for young people who want to get ahead.	.583
16.	You need a strong back and a weak mind to be a waiter.	.611
17.	A waiter is the most important employee in the restaurant.	a
18.	I could get along on a waiter's salary.	.722

Table 9. (Continued)

	Items	Differences
19.	Being a waiter is a desirable job.	1.291
20.	I wouldn't like working on holidays when everyone else is relaxing.	1.069
21.	Anyone can be a waiter.	.764
22.	Waiters have to work longer and harder than people in most other jobs.	.153
23.	Work as a waiter is too hard.	.111
24.	I would enjoy serving food to people.	.750
25.	A waiter gets ordered around by too many people.	.736
26.	Waiters are public servants.	.278
27.	A waiter gets to meet many interesting people.	.486
28.	Waiting tables isn't a man's job.	1.653
29.	I wouldn't like a job which has broken work hours.	1.097
30.	Table waiting is degrading work.	.528
31.	Waiters are just as good as anybody else.	.028
32.	Jobs as waiters are good for someone who wants to get ahead.	.333
33.	Customers think they are better than waiters.	.778
34.	You can't be a man and a waiter too.	.597
35.	I would enjoy the variety of activity in being a waiter.	1.569
36.	Being a good waiter is an art.	.694

Table 10. Differences between means of criterion groups of boys, girls, and women for the inventory, Attitude Toward Commercial Cooking

	Items	Boys	Differences Girls	Women
1.	As a cook, I feel I would be doing something worthwhile.	.875	1.125	1.250
2.	Cooking would be all right if I couldn't find any other job.	a	a	1.625
3.	Cooking is drudgery.	1.500	1.569	1.375
4.	I have always wanted to be a cook.	1.125	1.278	1.375
5.	I wouldn't be a cook under any circumstances.	1.500	1.833	1.375
6.	Cooking is monotonous work.	1.750	1.611	.500
7.	Cooking requires less education than most other occupations.	.500	1.042	1.250
8.	Cooks are skilled persons.	.750	.736	1.500
9.	All cooks should be required to have special training.	a	a	1.125
10.	I would rather work with things than people.	a	.222	.750
11.	Cooks don't get to work in nice surroundings.	1.125	.403	.625
12.	I would enjoy preparing food to please other people.	1.250	1.000	1.125
13.	Being a cook would be an interesting job.	1.875	2.000	1.125
14.	I wouldn't like working in a hot kitchen.	2.125	1.056	.500
15.	I would be willing to let my son or daughter be a cook.	1.000	1.153	.625

Table 10. (Continued)

Items	Boys	Differences Girls	Women
16. Cooks are well paid considering the amount of education they have.	.875	.125	a
17. A cook has to please too many people.	.125	.194	1.125
18. This is a dead-end job.	a	1.000	.750
19. A cook's pay isn't good enough to support a family.	1.000	1.278	.875
20. Cooks don't have to be responsible to anyone but the boss.	.250	a	a
21. Cooking would be a very desirable occupation.	1.625	1.236	1.375
22. You need a strong back and a weak mind to do this job.	.500	.931	.500
23. Cooks don't get to meet many interesting people.	.750	.931	.875
24. This is a good occupation for young people who want to get ahead.	1.315	1.111	1.000
25. A cook does not have to deal with different people all of the time.	a	a	.375
26. A cook is the most important employee in the restaurant.	.500	.389	.250
27. Cooking is too routine.	1.000	1.722	1.250
28. I could get along on a cook's salary.	.750	.569	.125
29. I would not like working on holidays when everyone else is relaxing.	1.125	.722	.875
30. Cooks have to work longer and harder than people in most other jobs.	.250	a	.250
31. Cooking is a satisfying job.	1.250	1.389	1.375

Table 10. (Continued)

	Items	Boys	Differences Girls	Women
32.	There is too much pressure on a cook to get things done on time.	.250	.625	.750
33.	Anyone can be a cook.	.500	a	.500
34.	This kind of work is too hard.	.125	.375	.875
35.	Great skill is required to be a cook.	1.000	.528	1.250

Table 11. Coefficients of correlation for the factor of grade level

Inventory	Coefficients Male	 Female
Attitude Toward Being a Waiter	0.105[x]	
Attitude Toward Being a Waitress		0.125[x]
Attitude Toward Commercial Cooking	-0.000	-0.111[x]

[x] Significant beyond the .05 level.

Table 12. Coefficients of correlation for the factor of place of residence

Inventory	Coefficients Male	 Female
Attitude Toward Being a Waiter	0.000	
Attitude Toward Being a Waitress		0.047
Attitude Toward Commercial Cooking	-0.031	-0.052

Table 13. Coefficients of correlation for the factor of academic ability

Inventory	Coefficients Male	 Female
Attitude Toward Being a Waiter	0.060	
Attitude Toward Being a Waitress		0.083
Attitude Toward Commercial Cooking	-0.077	-0.143[xx]

[xx] Significant beyond the .01 level.

Table 14. Coefficients of correlation for the factor of socioeconomic status

Inventory	Coefficients Male	Female
Attitude Toward Being a Waiter	-0.005	
Attitude Toward Being a Waitress		-0.029
Attitude Toward Commercial Cooking	-0.075	-0.025

Table 15. Coefficients of correlation for the factor of work experience

	Coefficients			
	Job experience		Food service experience	
Inventory	Males	Females	Males	Females
Attitude Toward Being a Waiter	-0.015		0.157^{xx}	
Attitude Toward Being a Waitress		0.056		0.033
Attitude Toward Commercial Cooking	0.050	0.033	0.046	-0.011

^{xx}Significant beyond the .01 level.

Table 16. Coefficients of correlation for the factor of level of job aspiration

Inventory	Coefficients Male	Female
Attitude Toward Being a Waiter	-0.145^{xx}	
Attitude Toward Being a Waitress		-0.248^{xx}
Attitude Toward Commercial Cooking	0.021	0.189^{xx}

^{xx}Significant beyond the .01 level.

Table 17. Scores and percentiles based on responses of 198 male pupils enrolled in food-service courses in Iowa high schools

Waiter		Commercial Cook	
Scores	Percentiles	Scores	Percentiles
123	100	114	100
101	95	100	95
97	90	97	90
94	85	94	85
91	80	92	80
89	75	91	75
86	70	89	70
85	65	88	65
84	60	86	60
83	55	85	55
81	50	82	50
80	45	80	45
77	40	79	40
75	35	77	35
73	30	75	30
71	25	74	25
69	20	73	20
65	15	70	15
64	10	68	10
58	5	64	5

Waiter	Commercial Cook
M = 80.9 ± 13.1 Extreme scores 42-123	M = 83.3 ± 10.3 Extreme scores 51-114

Table 18. Scores and percentiles based on responses of 189 female pupils enrolled in food-service courses in Iowa high schools

Waitress		Commercial Cook	
Scores	Percentiles	Scores	Percentiles
132	100	100	100
105	95	95	95
103	90	92	90
101	85	89	85
97	80	88	80
95	75	86	75
94	70	84	70
91	65	83	65
89	60	82	60
88	55	81	55
84	50	80	50
82	45	79	45
79	40	77	40
78	35	76	35
76	30	74	30
73	25	73	25
71	20	72	20
68	15	69	15
64	10	66	10
49	5	62	5

Waitress	Commercial Cook
$M = 84.6 \pm 15.4$	$M = 79.8 \pm 9.5$
Extreme scores 44-132	Extreme scores 49-100

Table 19. Intercorrelation among scores on the two inventories administered to women, occupational level, and school level

		1	2	3	4
Attitude Toward Waitress	1	1.000			
Attitude Toward Commercial Cooking	2	0.633	1.000		
Occupational level*	3	-0.111	-0.013	1.000	
School level	4	-0.089	-0.044	0.648	1.000

*Based on 168 cases.

Table 20. Intercorrelations among scores on the two inventories administered to men, occupational level, and school level

		1	2	3	4
Attitude Toward Waiter	1	1.000			
Attitude Toward Commercial Cook	2	0.580	1.000		
Occupational level*	3	-0.070	0.077	1.000	
School level	4	-0.054	0.170	0.568	1.000

*Based on 96 cases.

Table 21. Analysis of variance for scores on the inventory, Attitude Toward Waitress, income segment, food-service experience, and age

	Source	d.f.	Sum of squares	Mean squares	F	d.f.	Sum of squares	Mean squares	F
	Income segment	1	3.81	3.81	< 1	1			< 1
	Experience	1	1969.73	1969.73	14.65**				
	Age								
	(Linear	1	2577.11	2577.11	19.16**)	2	2967.50	1483.75	11.03**
	(Quadratic	1	131.90	131.90	< 1)				
	I x E	1	0.42	0.42	< 1				< 1
I x A	I x A_L	1	0.02	0.02	< 1)	2	318.10	159.05	1.18
	I x A_Q	1	309.38	309.38	2.30)				
E x A	E x A_L	1	69.01	69.01	< 1)	2	505.52	252.76	1.88
	E x A_Q	1	377.40	377.40	2.81)				
IxExA	I x E x A_L	1	60.95	60.95	< 1)	2	70.61	35.30	< 1
	I x E x A_Q	1	18.52	18.52	< 1)				
	Error		25,279.46	134.47					
	Total		30,483.18						

In this and in Tables 22, 23 and 24 the sums of squares for individual scores do not total to total sum of squares since sample sizes for individual cells are unequal.

** Significant beyond the .01 level of significance.

Table 22. Analysis of variance among scores for females on the inventory, Attitude Toward Commercial Cooking, income segment, food-service experience, and age

	Source	d.f.	Sum of squares	Mean squares	F	d.f.	Sum of squares	Mean squares	F
	Income segment	1	4.49	4.49	<1				
	Experience	1	1265.78	1265.78	9.48**				
	Age								
	(Linear	1	1647.17	1647.17	12.34**)	2	1700.06	850.03	6.37**
	(Quadratic	1	0.59	0.59	<1)				
	I x E	1	235.04	235.04	1.76				
IxA	I x A_L	1	1.81	1.81	<1)	2	1579.57	789.79	5.92**
	I x A_Q	1	1521.70	1521.70	11.40**)				
ExA	E x A_L	1	1.55	1.55	<1)	2	102.82	51.41	<1
	E x A_Q	1	94.86	94.86	<1)				
IxExA	I x E x A_L	1	132.45	132.45	<1)	2	135.60	67.80	<1
	I x E x A_Q	1	3.10	3.10	<1)				
	Error		25,093.08	133.47					
	Total		29,472.72						

** Significant beyond the .01 level of significance.

Table 23. Analysis of variance among scores on the inventory, Attitude Toward Waiter, income segment, food-service experience, and age

Source	d.f.	Sum of squares	Mean squares	F	d.f.	Sum of squares	Mean squares	F
Income segment	1	496.88	496.88	2.68				
Experience	1	3058.53	3058.53	16.47**				
Age								
(Linear	1	66.22	66.22	<1)	2	143.12	71.56	<1
(Quadratic	1	66.91	66.91	<1)				
I x E	1	2059.34	2059.34	11.09**				
I x A_L	1	0.11	0.11	<1)	2	6.07	3.04	<1
I x A_Q	1	6.04	6.04	<1)				
E x A_L	1	250.99	250.99	1.35)	2	582.40	291.20	1.57
E x A_Q	1	290.89	290.89	1.57)				
I x E x A_L	1	77.82	77.82	<1)	2	86.21	43.11	<1
I x E x A_Q	1	5.17	5.17	<1)				
Error		16,339.35	185.67					
Total		22,478.56						

** Significant beyond the .01 level of significance.

Table 24. Analysis of variance among scores for males on the inventory, Attitude Toward Commercial Cooking, income segment, food-service experience, and age

Source	d.f.	Sum of squares	Mean squares	F	d.f.	Sum of squares	Mean squares	F
Income segment	1	52.38	52.38	<1				
Experience	1	2181.95	2181.95	13.55**				
Age								
(Linear	1	2.89	2.89	<1)	2	229.58	114.79	<1
(Quadratic	1	222.04	222.04	1.38)				
I x E	1	425.55	425.55	2.64				
I x A_L	1	257.94	257.94	1.60)	2	258.71	129.36	<1
I x A_Q	1	0.06	0.06	<1)				
E x A_L	1	40.71	40.71	<1)	2	149.92	74.96	<1
E x A_Q	1	99.60	99.60	<1)				
I x E x A_L	1	687.08	687.08	4.26)	2	688.89	344.45	2.14
I x E x A_Q	1	0.23	0.23	<1)				
Error		14,173.62	161.06					
Total		17,564.75						

** Significant beyond the .01 level of significance.

APPENDIX C

Score Sheet for Determining the Relative Importance Of Service Conditions and Situations to Quality of Service in Table Service Restaurants

INSTRUCTIONS:

Would you check the enclosed sheets to assist in developing a means of evaluating quality of service in table service restaurants? If so, please read the following explanation carefully.

Listed on the following pages are phrases and statements which describe conditions or situations that indicate very poor service, that have no affect on quality of service, or are very important for good service. Under the descriptive phrases "this is a serious indication of very poor service," "this does not affect quality of service," and "this is very important for good service" seven numbers are equally spaced on a scale. Please use the seven point scale to score the statement describing table service.

In judging service in a restaurant, generally speaking, there are three things to consider---the speed of service, sanitation, and whether eating in the restaurant is enjoyable or pleasant. We are interested primarily in table service during the noon or lunch period. There are things that might be very important during breakfast or dinner that are not important at lunch.

In determining a score for a statement describing table service, judge the statement according to speed, sanitation, and/or enjoyment during luncheon service from the viewpoint of ______________________. When judging the statements related to service personnel, think of service persons in general rather than a specific waitress or a particular hostess. Also think of restaurants in general rather than just one particular restaurant.

We need to know whether the statements describing situations and conditions in table service restaurants are indications of very poor service, have no affect on the quality of service, or are important for good service. Please read the phrase or statement carefully and then give the statement a score by placing an X under the appropriate number.

For example, assume that you were asked to judge the following statement and give it a score.

Waitress sticks her thumb in the soup

You might think that in terms of enjoyment and sanitation (speed is not involved), is this a serious indication of very poor service? does this have any affect on quality of service? or is this important for good service?

If in your opinion this indicates poor service but not the very poorest, you might give the statement a score of 2 with an X marked under the 2 column as in the example below.

Two additional examples are also given.

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
Waitress sticks her thumb in the soup		X					
Table cloths are used				X			
The waitress seems happy with her work						X	

This is a part of a research project being conducted in the Institution Management Department at Iowa State University, Ames, Iowa.

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
1. Hostess is tardy in greeting guests							
2. The person taking the order makes suggestions							
3. Waitress replaces an item that is dropped							
4. No one checks by to see if the meal is satisfactory							
5. Waitress is nervous when serving guests							
6. Cracked china or glassware is used							
7. Menu provides a variety of selections							
8. Clean napkins are used							
9. At noon there is a 15 minute wait for food to arrive							
10. Dining area is noisy							
11. Tables are completely set before guests are seated							
12. Soiled tablecloths are replaced with clean cloths							
13. Carts are used in the dining area whenever possible							
14. Employee has a soiled bandage around finger							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
15. When a restaurant is crowded, guests are asked if they would mind sharing a table							
16. Guests wait 15-20 minutes for a table							
17. During service waitress makes a number of unnecessary trips							
18. Waitress interrupts guests while they are eating							
19. Waitress does not wear a hairnet							
20. Insects or flies are in the dining room							
21. Waitress is greatly overweight							
22. Service persons are busy talking to each other							
23. Waitress calls order back instead of taking it back to the kitchen							
24. Floor is swept during meal service							
25. Insufficient service personnel are present to accommodate guests' needs							
26. Service personnel work in street clothes							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
27. Waitress is familiar with the menu and does not ask unnecessary questions							
28. Cups are placed by the handle							
29. Hostess welcomes guests enthusiastically							
30. Restaurant's decor is colorful and well planned							
31. Kitchen employees with stained uniforms come into the dining room							
32. Arrangements are made for small children							
33. Waitress serves beverages from the guests' right if possible							
34. Tables are so close together than conversation at the next table can be heard							
35. Menu is difficult to understand							
36. Foods on display are either covered or protected by enclosed shelves							
37. Waitress is willing to help a guest in another waitress' area							
38. Waitress smokes and then serves food without washing her hands							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
39. Waitress is unavailable to take your order							
40. Waitress' hair is long and untidy							
41. Waitress is able to answer questions concerning menu items							
42. Waitress has a cold and is sneezing and coughing around food							
43. Busboy wears a clean jacket							
44. Glasses are handled by the base							
45. Lighting is very dim							
46. Food odors are present in the dining room							
47. Employee has bad breath							
48. Waitress puts pencil in mouth, hair, or over the ear							
49. Busboy or waitress clears table quickly							
50. Hands are used to put ice into glasses							
51. Service supplies as silver, coffee etc. are conveniently located for the waitress							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
52. Prompt service is given							
53. Waitress seems eager to please the guests							
54. No one is available when guests are ready to pay the check							
55. Ventilation is poor							
56. Waitress is friendly throughout service							
57. Waitress bumps into guest's chair while moving through the dining room							
58. Waitress carelessly places plates on the table							
59. Service person touches face or puts fingers near mouth or nose and does not wash hands before handling food							
60. Carpeting is dirty							
61. Fresh flowers are used on each table							
62. Waitress informs the guest if his order will be delayed							
63. Waitress substitues food ordered without consulting guest							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
64. Bus pans are inconspicuously placed in the dining area							
65. Service personnel have clean hands and fingernails							
66. Part of the meal arrives and part is delayed							
67. Waitress wears a dingy uniform							
68. Waitress wears bright fingernail polish							
69. Waitress seems bored with her work							
70. Chairs or booths are comfortable							
71. When several tables are available, guests are asked for a preference							
72. Ash trays are not on the tables							
73. Music is soft and quiet							
74. Restaurant has a "specialty"							
75. Someone who arrived after you is given service first							
76. Service persons carry trays that are too heavy or overloaded							
77. Service persons have a snobbish attitude							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
78. Every waitress in a restaurant uses the same procedure in serving food							
79. Crusty edge is around mustard bowl or catsup bottle							
80. Waitress leans against the wall							
81. Restroom has adequate supplies and clean equipment							
82. The garbage cans outside are uncovered and unsightly							
83. Crumbs are on the floor							
84. Windows are dirty							
85. Waitress rushes guests in eating							
86. Check is presented to the guest promptly							
87. Waitress is unconcerned about the guests							
88. Menu is clean							
89. Food on the plate looks messy							
90. Furniture is in poor condition							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
91. Light fixtures and window ledges are free of dust							
92. Waitress asks if the guest would like dessert							
93. Dishes are crowded on the table							
94. Salt and pepper shakers are clean							
95. Waitress wears a strong perfume							
96. Soiled dishes are stacked at the table							
97. Waitress carries orders from the kitchen on a tray							
98. Dirty cloths are used in cleaning tables							
99. Waitress does not refill water glass							
100. Hostess or cashier says good by							
101. Service personnel wear tennis shoes							
102. Waitress checks to see if she can be of further service							
103. Service person is impolite to the guest							
104. Temperature of the dining room is neither too warm nor too cold							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
105. Waitress places silverware by the handles							
106. Menu is set up in an interesting way							
107. Tables are cleared immediately after each guest leaves							
108. Stale smoke is present in the dining room							
109. Waitress wears a moderate amount of makeup							
110. Waitress makes a special effort to get an item for the guest							
111. Dirty buscarts are rolled through the dining room							
112. Restroom is dirty							
113. Food and liquor are served in the same restaurant							
114. Waitress' uniform is well-fitted							
115. Watiress asks for guests' preference when there is a choice							
116. Waitress keeps fingers away from food on the plate							
117. Trays are too small for the load							
118. Stained cups are used							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
119. Printed menu is slightly soiled							
120. There is no unreasonable delay in service							
121. Uncovered garbage cans are used in the dining area							
122. Waitress handles soiled silverware by the handles							
123. Waitress' hair is neatly groomed							
124. Waitress wears much jewelry							
125. Clean serving trays are used							
126. Floor is clean							
127. Hot food is served hot and cold food cold							
128. Hostess or cashier invites guest to return							
129. Tables are cleaned after each guest leaves							
130. Food service equipment in dining area is spotlessly clean							
131. Knives, forks, and spoons are free of food soil							

	This is a serious indication of very poor service			This does not affect quality of service			This is very important for good service
	1	2	3	4	5	6	7
132. Waitress has an irritating voice							
133. Furniture is dusty							
134. Employee has body odor							
135. Waitress remembers which order goes to each guest							

136. Please rank the following three factors related to quality of service in order of importance to you. The most important would receive 1; the second most important, 2; and the least important, 3.

A. Speed _______

B. Sanitation _______

C. Enjoyment _______

IOWA STATE UNIVERSITY, Department of Institution Management,
Ames, Iowa.

Evaluation Form for Determining
Quality of Service in Table Service Restaurants

Statements and phrases which describe possible situations or levels of performance in table service restaurants are listed below. To use this form for evaluation purposes, you should:

1. Be thoroughly familiar with the instrument and have had some practice in using it
2. Actually enter the restaurant being evaluated during luncheon service, order a meal, and be served
3. After leaving the restaurant and without consulting with anyone else, read each item and place an X in the first column if the situation did exist, place an X in the second column if the situation did not exist, and place an X in the third column if for any reason you could not judge
4. Be sure that you respond to each item.

Item	This did exist	This did not exist	Could not judge
1. Waitress remembers which order goes to each guest			
2. Stale smoke is present in the dining room			
3. Fresh flowers are used on each table			
4. Dirty buscarts are rolled through the dining room			
5. When restaurant is crowded, guests are asked if they would mind sharing a table			
6. Salt and pepper shakers are clean			
7. Dirty cloths are used in cleaning tables			
8. Dishes are crowded on the table			
9. Waitress carries orders from the kitchen on a tray			
10. Waitress is nervous when serving guests			
11. During service waitress makes a number of unnecessary trips			
12. Bus pans are inconspicuously placed in the dining area			

Item	This did exist	This did not exist	Could not judge
13. Hot food is served hot and cold food cold			
14. Waitress seems bored with her work			
15. Insufficient service personnel are present to accommodate guests' needs			
16. Waitress rushes guests in eating			
17. Waitress wears a moderate amount of makeup			
18. Light fixtures and window ledges are free of dust			
19. Busboy or waitress clears the table quickly			
20. No one is available when guests are ready to pay the check			
21. Lighting is very dim			
22. Service person is impolite to the guest			
23. Hostess is tardy in greeting guests			
24. Prompt service is given			
25. Check is presented to the guest promptly			
26. Employee has bad breath			
27. The person taking the order makes suggestions			
28. Dining area is noisy			
29. Cracked china or glassware is used			
30. Service personnel have clean hands and fingernails			

Item	This did exist	This did not exist	Could not judge
31. Menu provides a variety of selections			
32. Restaurant's decor is colorful and well planned			
33. Waitress' uniform is well-fitted			
34. Waitress bumps into guest's chair while moving through the dining room			
35. Waitress does not refill water glass			
36. Trays are too small for the load			
37. Crumbs are on the floor			
38. Waitress keeps fingers away from food on the plate			
39. Waitress is friendly throughout service			
40. Guests wait 15-20 minutes for a table			
41. Printed menu is slightly soiled			
42. Carts are used in the dining area whenever possible			
43. Waitress checks to see if she can be of further service			
44. Food and liquor are served in the same restaurant			
45. Waitress puts pencil in mouth, hair, or over the ear			

Name of evaluater ______________________ Date ____________

Name of food service establishment evaluated ______________________

Please indicate a rating for the service in this food service establishment based on a scale from 1-100; 1 would indicate the very poorest service, 50 would indicate neutral service, and 100 would indicate the very best service. Score _______

On the basis of this one visit, would you return to this food service establishment? Circle correct response YES or NO

IOWA STATE UNIVERSITY
DEPARTMENT OF INSTITUTION MANAGEMENT
Ames, Iowa

Directions for Checking the Food Preference Scale

You have been given several sheets on which are listed food items or seasonings commonly used in food service establishments. This is not a test but rather a survey. Your responses should represent your actual reaction to these foods.

Please supply the information on the cover sheet before you check any food items. In checking the items, please note the first column. If you are not familiar with the food or do not know what it is, or if you have not tried the item, check the first column. If there are some foods you cannot eat for various reasons, check the second column. If one of the first two columns is not checked, check in one of the remaining columns.

Place one check per line for each food item. If you are not sure whether you like or dislike the item, check the column with the heading "Neither Like Nor Dislike". After completing pages 1 through 9 will you kindly answer the question on page 10?

IOWA STATE UNIVERSITY of Science and Technology
Institution Management Department, Ames, Iowa

FOOD PREFERENCE SURVEY

Name ______________________________ Date ______________

Home Address ______________________________________

List states and/or foreign countries in which you have lived more than one year before you were 16 years old; indicate the number of years lived in each state or country.

State and/or country	Number of years

Indicate the number of years you lived on a farm or in a city before you were 16.

On a farm ________ In a city ____

Indicate where you presently eat most of your meals.

At home ______________
In a residence hall ________
In a restaurant __________
Other, specify ___________

Specify degrees held and your major subjects. If you do not have a degree, indicate the date you expect to receive a degree.

Degree	Major Subject

List briefly your work experience. List your present experience first.

____

____

____

Do you have any physical disorder which prevents you from eating any foods?

Yes ________ No ________

If the above answer is Yes, list the foods you must avoid.

____

____

Instructions: Place an (X) in the appropriate column that describes your reaction toward the foods listed.

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Lemon Layer Cake									
Chicken Chop Suey									
Strawberry Shortcake									
Fruit Jello Salad									
Cod Fish Cakes									
Shrimp Steak									
Rice Pudding									
Cottage Cheese									
Black Raspberry Pie									
Breaded Veal Cutlets									
Ground Beef Casserole									
Asparagus Souffle									
Carmel Custard									
Swedish Meat Balls									
Shrimp, Rice Casserole									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Corn Fritters									
Fresh Strawberries									
Fillet of Sole									
Tuna Newburg									
Braised Tongue									
Meat Loaf									
Orange Sherbet									
Buttered Egg Noodles									
Shrimp Salad									
Corned Beef									
Beef Tenderloin									
Bacon									
Baked Apple									
Fresh Fruit Salad									
Cornish hen									
Pineapple Upside-down cake									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moder-ately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moder-ately	Dislike Very Much
Dates									
Baked Salmon Loaf									
Veal Chops									
Sliced Pineapple									
Turkey a la King									
Spareribs									
Sliced Orange Salad									
Frog Legs									
Spiced Layer Cake									
Carrot and Raisin Salad									
Beef Ravioli									
Pork Chops									
Bananas									
Pecan Pie									
Chocolate Ice Cream									
Watermelon									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Apple Pie									
Mushroom Sauce									
Cream Cheese									
Tuna Fish Salad									
Salmon Noodle Casserole									
Steak - Medium									
Cooked Tomatoes									
Country Pork Sausage									
Creamed Chicken au Gratin									
Sauteed Mushrooms									
Cherry Tart									
Asparagus									
Canadian Bacon									
Sardines									
Coconut Cream Pie									
Corned Beef Hash									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Tomato and Lettuce Salad									
Spanish Rice									
Chow Mein									
Poppyseed Dressing									
Italian Spaghetti									
Salmon Salad									
Grapefruit Salad									
Broiled Lamb Chops									
Salami									
Shrimp									
Pumpkin Pie									
Broiled Snapper									
Breaded Pork Chops									
Baked Ham									
Frankfurters									
Chocolate Sundae									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moder-ately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moder-ately	Dislike Very Much
Steak - Well Done									
Fillet of Trout									
Beet Salad									
Macaroni and Cheese									
Lasagna									
Ham Steak									
Hot Sliced Turkey									
Raisins									
Sauerkraut									
Sweetbreads									
Cherry Cobbler									
Lamb Stew									
Cantelope									
Scallops									
Chocolate Eclairs									
Bread Pudding									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Roast Duck									
Kadota Figs									
Fish Sticks									
Cole Slaw									
Roquefort Dressing									
Thousand Island Dressing									
Curry Sauce									
Raisin Sauce									
Barbecued Chicken									
Egg Omelet									
Cooked Onions									
Chicken Noodle Casserole									
Sausage Creole									
Braised Liver									
Minute Steak									
Shrimp Creole									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Cheese Souffle									
Beef Hamburger									
Cucumber Salad									
Broiled Perch									
French Dressing									
Waldorf Salad									
Deviled Eggs									
Tomato Aspic Salad									
Ham Hocks									
Cheese Cake									
Beef Goulash									
Salmon Croquettes									
Buttered Wild Rice									
Roast Leg of Lamb									
Fresh Green Pepper									
Kidney Bean Salad									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Barbecued Beef									
Rhubarb Pie									
Creamed Chipped Beef									
Pork Tenderloin									
Pot Roast of Beef									
Halibut Steak									
Red Raspberries									
Beef Stew									
Garlic Dressing									
Fried Chicken									
Raw Onions									
Baked Haddock									
Chicken Salad									
Potato Salad									
American Cheese									
Steak - Rare									

FOOD ITEM	Do Not Know Or Not Tried	Body Cannot Tolerate This Food	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much
Lemon Meringue Pie									
Boiled Lobster									
Fried Chicken Livers									
Hot Tamales									
Avocado									
Fudge Layer Cake									
Crab									

Please list any general likes or dislikes in regard to food (for example, methods of preparation, types of flavors, combinations of food, etc.).

____

____

____

____

____

____

DEFINITION OF QUALITY CHARACTERISTICS

IOWA STATE UNIVERSITY, Department of Institution Management, Ames, Iowa

Appearance	- typical of food item color or color contrast variation in form and size of pieces arrangement in relation to other items
Aroma (odor)	- fragrance
Flavor (taste)	- typical of food item combination of flavors balance or blend or seasoning amount of seasoning
Freshness	- crispness freedom from defects
Juiciness	- amount suitable to the item
Temperature	- appropriate to the item served
Texture	- firmness, fineness, consistency

Combination dish - several ingredients mixed together and served as one item, for example, tuna noodle casserole, chicken ala king, or chop suey

In judging a meat, poultry, fish, or seafood item with a gravy or sauce, consider only the food without the gravy or sauce.

Directions for completing the evaluation scales and general information sheet

IOWA STATE UNIVERSITY, Department of Institution Management, Ames, Iowa

Directions for completing the evaluation scales and general information sheet.

As a group, you will be visiting selected food service establishments for the purpose of evaluating the eatability and appearance of food served. For each individual experience all of you will order the same entree, salad, and dessert. Any other item(s) you choose to order for the meal need not be the same.

On each day that you visit a food service establishment, proceed in the following order:

1. Take with you the envelope containing the evaluation scales.
2. After the meal, remove the appropriate booklet for the entree, salad, and dessert you selected. The scales available include:

Entree	Dessert	Salad
Meat or Poultry,	Cake or Pie,	
Fish or Seafood,	Pudding, Ice Cream,	
Entree Combination	Gelatin	

3. Circle the score which best describes the particular quality being evaluated. BE SURE TO MARK EVERY PAGE IN THE BOOKLET. The neutral score of "4" is provided for instances when the characteristic is satisfactory but neither desirable nor undesirable.
4. On the general information sheet provided, place all the menu items chosen, and your evaluation of the general acceptability of the entire meal. The other information will be supplied for you.
5. Return the general information sheet and the evaluation scale booklets to the original envelope after completing the marking.
6. Leave the envelope on your desk when you return to your office. It will be collected in the afternoon following each experience. Another envelope will be provided for your next visit.

To make the best use of the evaluation instrument:

1. Be thoroughly familiar with the terminology used in the instrument.
2. Have had some practice in using the instrument.
3. Mark the evaluation for each item immediately after leaving the food service establishment and before consulting with anyone else. Do not discuss the quality of the food in any establishment with any other members of the evaluation team during or after the visit to the food establishment.

IOWA STATE UNIVERSITY, Department of Institution Management
Ames, Iowa

General Information Sheet

Name ____ Date ________

Name of Food Establishment ________________________ City ________

Menu items chosen for the meal: (Entree) ________________________

(Salad) ________________________

(Dessert) ________________________

(Beverage) ________________________

(Other) ________________________

Please indicate by means of the scale below the general acceptability of the entire meal.

7	6	5	4	3	2	1
very acceptable		moderately acceptable		moderately unacceptable		very unacceptable

General information sheet for food quality evaluation instrument

IOWA STATE UNIVERSITY, Department of Institution Management
Ames, Iowa

Booklet of Evaluation Scales

for

MEAT, POULTRY, FISH, OR SEAFOOD

MEAT, POULTRY, FISH, OR SEAFOOD APPEARANCE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

MEAT, POULTRY, FISH, OR SEAFOOD JUICINESS

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

MEAT, POULTRY, FISH, OR SEAFOOD AROMA (ODOR)

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

Evaluation scales for quality characteristics of meat, poultry, fish, or seafood

MEAT, POULTRY, FISH, OR SEAFOOD TENDERNESS

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

MEAT, POULTRY, FISH, OR SEAFOOD TEXTURE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

MEAT, POULTRY, FISH, OR SEAFOOD TEMPERATURE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

MEAT, POULTRY, FISH, OR SEAFOOD FLAVOR (TASTE)

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

(Continued)

IOWA STATE UNIVERSITY, Department of Institution Management
Ames, Iowa

Booklet of Evaluation Scales
for
ENTREE COMBINATION

ENTREE COMBINATION APPEARANCE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

ENTREE COMBINATION AROMA (ODOR)

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

ENTREE COMBINATION TENDERNESS OF SOLID INGREDIENTS

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

Evaluation scales for quality characteristics of entree combination

ENTREE COMBINATION TEXTURE OF SOLID INGREDIENTS

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

ENTREE COMBINATION TEMPERATURE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

ENTREE COMBINATION FLAVOR OF COMBINED INGREDIENTS

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

(Continued)

IOWA STATE UNIVERSITY, Department of Institution Management
Ames, Iowa

Booklet of Evaluation Scales

for

SALAD

SALAD APPEARANCE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

SALAD FRESHNESS

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

SALAD TEMPERATURE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

Evaluation scales for quality characteristics of salad

SALAD TEXTURE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

SALAD FLAVOR (TASTE)

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

(Continued)

IOWA STATE UNIVERSITY, Department of Institution Management
Ames, Iowa

Booklet of Evaluation Scales
for
CAKE OR PIE

CAKE OR PIE **APPEARANCE**

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

CAKE OR PIE **TENDERNESS**

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

CAKE OR PIE **TEXTURE**

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

Evaluation scales for quality characteristics of cake or pie

CAKE OR PIE FLAVOR (TASTE)

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

(Continued)

IOWA STATE UNIVERSITY, Department of Institution Management
Ames, Iowa

Booklet of Evaluation Scales
for
PUDDING, ICE CREAM, OR GELATIN

PUDDING, ICE CREAM, OR GELATIN APPEARANCE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

PUDDING, ICE CREAM, OR GELATIN TEXTURE

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

PUDDING, ICE CREAM, OR GELATIN FLAVOR (TASTE)

7	6	5	4	3	2	1
very desirable		moderately desirable		moderately undesirable		very undesirable

Evaluation scales for quality characteristics of pudding, ice cream, or gelatin

WEIGHTING OF QUALITY CHARACTERISTICS

IOWA STATE UNIVERSITY, Department of Institution Management, Ames, Iowa

Various quality characteristics are sometimes considered in judging the acceptability of food. Some of these characteristics may be very important, others moderately important, and others less important. On the attached sheet is a list of the definitions of the characteristics under consideration.

Please indicate the importance you place on the characteristics listed for each type of product by marking as follows:

3 - very important
2 - moderately important
1 - less important

TYPE OF FOOD	CHARACTERISTICS
Meat or Poultry Fish or Seafood	_____ Appearance
	_____ Juiciness
	_____ Aroma (Odor)
	_____ Tenderness
	_____ Texture
	_____ Temperature
	_____ Flavor (Taste)
Entree Combination	_____ Appearance
	_____ Aroma (Odor)
	_____ Tenderness of Solid Ingredients
	_____ Texture of Solid Ingredients
	_____ Flavor of Combined Ingredients
	_____ Temperature
Pie or Cake	_____ Appearance
	_____ Tenderness
	_____ Texture
	_____ Flavor
Salad	_____ Appearance
	_____ Freshness
	_____ Temperature
	_____ Texture
	_____ Flavor
Pudding, Ice Cream, or Gelatin	_____ Appearance
	_____ Texture
	_____ Flavor